# SELF STUDY REPORT

## FOR

## 2$^{nd}$ CYCLE OF ACCREDITATION

## INDIAN AGRICULTURAL RESEARCH INSTITUTE

ICAR-INDIAN AGRICULTURAL RESEARCH INSTITUTE PUSA CAMPUS
110012
www.iari.res.in

Submitted To

## NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

## BANGALORE

## (Draft)

# 1. EXECUTIVE SUMMARY

## 1.1 INTRODUCTION

IARI was established in 1905 and is imparting MSc/MTech & PhD degree programme leading to development of high quality Human Resource in the field of agriculture. Most of the students get employed in ICAR as ARS scientists, faculty of State Agricutlural Universities, State Agriculture Departments and are contributing in management of research and development in the area of agriculture and rural sector. Many of its alumni are Dr MS Swaminathan (1987), Dr Surinder K Vasal (2000), Dr Sanjaya Rajaram (2014) and Dr Rattan Lal (2021) have been awarded World Food Prize. Eleven of its alumni were honoured with Padma Award namely Dr MS Swaminathan (1961), Dr AB Joshi (1975), Dr VL Chopra (1975), Dr HK Jain (1985), Dr P Govindarajan (1991), Dr Sanjay Rajaram (2001), Dr EA Siddiq (2011), Dr KL Chadha (2012), Dr Brahma Singh (2014), Dr BS Dhillon (2019) and Dr Rattan Lal (2021). The varieties developed by IARI like Basmati varieties account for 90 per cent of the total basmati area and contributes to realization of Rs 29847 crores (year 2021) by way of export earnings. The wheat varieties bred by IARI account for 60 per cent of total wheat area similarly the mustard varieties account for 50 % of total mustard varieties of the country. IARI has taken a number of initiatives for transfer of technology to farmers like MGMG programme, PUSA SAMACHAR, Pusa Krishi Mela, etc. The contributions made by IARI has been recognised with Sardar Patel Award (2020), ISO certification 9001-2015 and DSIR certification and NAAC (A+) (during 2016-17). The IARI is aiming to become a global university with more autonomy and flexibility in recruitment of faculty and type of courses and programmes it seeks to initiate. The participation of the institute in the second cycle of NAAC for accreditation will further boost its efforts to retain its glory and continue to provide quality education.

**Vision**

To provide leadership for Science-led sustainable and globally competitive agriculture for food, nutrition and livelihood security

**Mission**

To explore new frontiers of science and develop human resources to provide the leadership in technology development and policy guidance for vibrant and resilient agriculture, which should be productive, eco-friendly, sustainable, economically profitable and socially equitable. In order to accomplish this mission, the Institute has adopted the following mandates:

- Basic, strategic and anticipatory research in field and horticultural crops for enhanced productivity and quality.

- Research in frontier areas to develop resource use efficient integrated crop management technologies for the sustainable agricultural production system.

- Serve as a centre for academic excellence in the areas of post-graduate education and human resources

development in agricultural science.

- Provide national leadership in agricultural research, education, extension and technology assessment and transfer by developing new concepts and approaches and serving as a national reference point for quality and standards.

# 1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

**Institutional Strength**

Being located in Delhi is a great strength for IARI. It has large pool of scientific and technical personnel to support research. In its neighborhood a large number of related institutions like ICAR-IASRI, ICAR-NBPGR, ICAR-NIPB, ICAR-NCIPM, PPV & FRA, etc. provide opportunity for undertakingcollaborative research work. Presence of large number of well-equipped laboratories and world class facilities like National PhytotronFacility, Nanaji Deshmukh Penomics Lab, Discovery Centre, Regional laboratoryfor honey quality testing, NABL accredited unit for testing of pesticide residues in food commodity, CPCT (new name), Niche area of Excellence - Formulation and Analysis Center etc. provide umpteen scope for researchers to endeavor cutting edge R & D in the field agriculture and allied domains.

IARI has strong interdisciplinary R&D, Education and Extension ecosystem which has led to accomplishments of national and global importance exemplified by the large number of varieties (give number) of cereals, millets, oilseeds, pulses. horticulture crops etc.The basmati varieties PB 1121, PB1509; NRM technologies such as Pusa STFR meter, Pusa decomposeR, Pusa hydrogeL, Neem coated urea (take from the technology coffee book of IARI); nutritional and processed food technologies (take Hallur).

It has developed large number of varieties, basmati varieties developed by the institute are covering in an area of 90% of total area, wheat varieties are covering an area of 60% of total weight area and mustard varieties are covering an area of 50% of total master area in the country. It has large pool of protected technologies by way of patents. IARI's IP portfolio at present has  patents including national and international and the number is growing significantly each year, from faculty and students research progress. IARI'sZonal……………..

The interdisciplinary research program programs (number)and credit based courses for M.Sc. and Ph.D.teaching (number of each)in operation at IARI represent holistic and inclusive research and human resource development at pattern of global land-grantuniversities.These programs are very well strengthened through national and international functional linkages and collaborations. The outcome from research is very systematically taken to the grassroot level through the extension system of institute interlinked with National Agricultural Extension System and Institute through this system has enabling environment for providing exposure to the students through the extension window. Additionally, through its specialized courses and agripreneurshipwindow at ZTMBPD, IARI is having national level leadership role in agripreneur ecosystem of country.

**Institutional Weakness**

IARI is not having UG program is affecting its ranking among the universities and other ICAR Institutes. The starting of the new campus at IARI Jharkhand and IARI Assam posses new challenges in spreading its

resources both budgetary and scientific manpower. Being located in Delhi the precious research farm land is being converted to non-research activity like Melas/fairsor is being taken for establishing newer institutes.Being part of ICAR and Ministry of Agriculture and Farmers Welfare poses restrictions in taking decision on research and teaching.Fund constraints due to reduced budgetary allocation is a major bottle neck to implementation of initiatives the institute of highest national importance.

On the context of establishment of Global University and implementation of the undergraduate level of academic programmes like SAUs, infrastructure for the classrooms and the laboratories as well as residual and training hostels are lackingat present to cater the UG level of education. Beside that institute presently do not have a are psychological counseling unit which is a essential requirement for Institute in modern system educational environment.At present the institute is suffering from insufficient number of guest houses,which is important requirement for implementation of different training programmeand lack of sufficient canteen facilities in the campus for enabling comfortable amenities for stuff and students.

IARI does not have an alumni relationship cell and hence does not have any structured alumni engagement programs.As a result, it has not been able to reap benefits of its vast network of well-established alumni located throughout the world. IARI even today lacks the robust digital system to manage and report data and many a times it has been observed that for huge compilation required engagement of number of manpower which in turn impacts the effective pace and decision making of the institute.

## Institutional Opportunity

IARI is committed to convert its limitations or weaknesses into opportunities. The institute its moving fast and trying hard to bridge those gaps and achieve the goal of unique intel Institute in Asia.New Education Policy is opening new opportunity for expanding its activities by including new courses and new programs. It is providing enabling environment for IARI to become global university with autonomy in recruitment and taking up research and education programs. IARI being located in Delhi and also has large pool of high-quality scientists attract many international and CGIAR Institute to collaborate in developing technologies beneficial for societies.The National Education policy 2020 has opened various avenues for HEI's to improve the education quality and research.IARI should try fully capitalize on these opportunities. Initiation of global university and starting of the undergraduate education will proved to be a milestone in the education system of IARI. A huge infrastructure in terms of student hostels classrooms and laboratories is proposed to be developed to cater the undergraduate education of the competent of the students of these country.IARI being the premier agriculture research institute, needs to open up to non-ICAR research and capacity building systems in collaboration with private organizations in the respective domain of operation.

## Institutional Challenge

Dwindling of budgetary support and from the various government funding agencies like DBT, DST etc., is posing a big challenge in taking up research in frontier areas like precision farming, application of drone in agriculture, etc.Shift of government emphasis towards natural farming has put pressure on research as the limited resource has to be diverted to the purpose.

It has been observed in the recent past that many of the reported agricultural universities in India uh like

GBPUAT, PAU, TNAU performed exceptionally good and hence might gain a prominence over IARI in near future, if IARI don't take unique step to keep its position as premier in the field. Recently online courses are being offered by many of the private institutions with a decent emolument. IARI is yet to start any similar online courses, although there are several division are competent to do so. Many non-agricultural institutions such as IIM A in the present day offer post graduate program in industry demanded agricultural streams. This can impact the potential importance of IARI in the future if those similar courses are not taken care of in IARI. Many private universities such as Sarda University, Lovely Professional University, SGT University have a full-fledged agricultural school and are offering courses in agriculture. They are also able to attract international students in their courses.Private universities have started education in the field of agriculture which has implication on quality of education. IARI has to strike hard to attract best students towards it and to sustain on the top position in terms of imparting quality education.

# 1.3 CRITERIA WISE SUMMARY

**Curricular Aspects**

The ICAR-Indian Agricultural Research Institute (ICAR-IARI) has developed internationally competitive programmes ingrained with comprehensive curricula for developing quality human resources. The curricula include both basic and applied aspects with a multidisciplinary approach for holistic understanding of the subject. The ICAR-IARI offers various programmes a) academic programmes for students leading to the degrees B.Sc. (Ag), M.Sc. (Ag) /M.Tech and Ph.D., b) short duration training programmes / workshops / certificate programmes. The curriculum of all the programmes aims to equip the students and other candidates for manning superior posts in the field of research, teaching and extension. All programs offered by ICAR-IARI are regularly updated to include the emerging areas of research for meeting the global standards. The activities and content directly impact the employability of the programme participants, who develop various skills, including entrepreneurial skills. The students of ICAR-IARI are imparted with research, teaching and extension/communication skills. Skill development is an integral part of M.Sc./M.Tech. and Ph.D. programmes. Most of the courses have at least one credit practical to provide hands on experience to the students in various techniques / skills required in their field of study. The term paper presentation, group discussions, outline of research work and thesis work presentations impart the teaching and research skills to the students. The students are trained to use the modern equipments, tools and softwares available in their field of study. The research and thesis work helps students to connect their theoretical and conceptual understanding with practical understanding. It also inculcates the students with analytical and written communication skills. All the course leaders obtain feedback for the students in a prescribed format and utilized for further improving the course and teaching. The feedback from serving ICAR-IARI alumni is also obtained from national and international conferences / meeting / webinars for regular upgradation of curriculum to keep abreast of the emerging trends, stakeholder needs and global competition.

**Teaching-learning and Evaluation**

The endeavourof IARI is to generate globally-competent, locally-rooted and industry-ready human resource, prepared to aim high-hanging fruits and to undertake new ventures by taking calculated risks and thereby be a job-provider rather than a job-seeker. The institute has developed a robust mechanism for attaining the aforementioned goal; a vast infrastructure, a wealth of well-trained faculty, and a network of well-equipped laboratories and experimental fields to provide world-class training to PG students. The students are provided ample opportunities for the international exposure; many of our students are trained in foreign laboratories in

the cutting-edge technologies under different fellowship programs,includingour world bank-funded National Agricultural Higher Education Project. Furthermore, the students are provided adequate in-field experience in the farms & industries under various courses &institutional schemes. Similarly, the skill, knowledge and expertise of faculty members are regularly upgraded.

The institute is offering diverse & well-structured courses,in 26 disciplines, designed to meet the requirements of various stakeholders. Under CBCS, the students are encouraged to enroll in courses offered across the disciplinesin order to provide them holistic & multi-dimensional insights to expand their horizons&perspectives. The students with non-agricultural background are offered a concise capsule of remedial courses in order to bring them at par with agricultural students. An English language course is offered for the foreign and Indian (with rural backgrounds) students. The students' feedback is regularly obtained through a comprehensive course evaluation proforma, which is extensively processed for making necessary changes in the course content, shape and pedagogy. The students are evaluated in a continuous assessment system, which helps to identify slow- and advanced-learners, who are then accordingly trained. The evaluation process is very fair and transparent- almost nil complaints are received in this regard in our grievance cell. The quality of education provided to our students is very well-reflected in theirexemplary research outputs, placements and outstanding performance in various competitive examinations.The institute is now gearing up for acquiring Global University status,as envisioned in the NEP,by internationalization of our teaching programmes, introduction of new courses/schemesand through modernization of laboratories & classrooms.

## Research, Innovations and Extension

Indian Agricultural Research Institute (IARI), New Delhiis a constituent unit of the Indian Council of Agricultural Research, and the Director is the principal executive officer of the Institute. The Institute has seven main bodies namely, Board of Management (BOM), Executive Council, Academic Council, Institute Research Council, Extension Council, Research Advisory Committee and Quinquennial Review Team. IARI has six schools which coordinates formulation and implementation of the inter-disciplinary projects. The Institute collaborates with several national/international institutes/industries to conduct research and transfer technologies. IARI is head quarter for many All India Coordinated Research Projects, and National Coordinated Centres for a various All India Coordinated Programmes and several external funded multi-institutional projects funded by NASF, Foreign Aided Projects, and several external funded projects from DBT, DST, CSIR, etc. At the International level, the Institute has close linkages with some of the CGIAR's International Agricultural Research Centres (IARCs), viz., ICRISAT, CIMMYT, IRRI, and ICARDA. The Institute organizes several national and international short-term training courses under the programmes of "Centres of Excellence" and "Centres of Advanced Faculty Training". Institute has state of art facilities like National Phytotron Facility, National Phenomics facility, Discovery centre etc.The Institute has created **an ecosystem for innovations including Incubation centre and other initiatives as**the Zonal Technology Management and Business Promotion Development (ZTM-BPD) Unit for the **creation and transfer of knowledge.**ICAR technologies managed and transferred by IARI have spread over almost all states of the country building farmers' and enterprises' confidence and contributing to agricultural productivity, production and returns.The IARI started its extension activities during 1949-50 and the concepts of seed village production unit and national demonstration took shape in 1965. Krishi Vigyan Mela and mini-kit demonstration (1972), Integrated Area Development Programmes, Operational Research Projects (1975-76), Farmer to- Farmer Quality Seed Programme (1986), MGMG (2015-16), Pusa Samachar etc. were initiated by the Institute. The Students of the School of Social Studies actively interact with farmers and other stakeholders during the course work as well as

surveys for their research work. IARI has a global impact on the agriculture by providing excellent research facilities, technology-oriented programmes and extension activities.

## Infrastructure and Learning Resources

Institute has excellent facilities for teaching and learning. In each Department one class room is equipped with LCD projector, computer, WiFi and interactive board. A few Departments have smart class rooms with Cideo conferencing facilities. All departments have state of art laboratories. Institute has World class facilities like Nanaji Deshmukh Phenomics Lab, National Phytotron Facility, Pesticide Referral Laboratory, Soil and Water Analysis Lab, Automatic Weather Station, Satellite Image Analysis Lab, Food Quality Testing Lab. The Seed Testing Laboratory of the Institute has got the status of CSTL under the Ministry of Agriculture and serves as a Referral Laboratory for all the 96 seed testing labs located in different parts of the country. The Institute encourages extra- curricular activities that enrich cultural, physical and social life of students. Spacious playgrounds are provided near the student hostels and necessary facilities exist for outdoor games like cricket, football, hockey, volleyball, tennis, badminton and various athletic events. There are facilities also for indoor games like Chess, Carom and Table Tennis in each hostel.The institue has state of art gymnasium ( one is adjacent to Sharad Hostel for students, one in Varsha Hostel for girls, one in faculty club for faculty members, and one in Nehru Experimental Center for Non teaching staff). Institute has four (4) auditorium, the main auditorium is named as Dr BP Pal auditorium is adjacent to Central Office. All the auditoriums are fully airconditioned with projects and audio-visual facilities. IARI is a fully residential campus for the students. Institute has five hostels for Boys (Hemant, Vasant, Shishir, Grishm and Sharad), one for Girls (Varsha) and one Saraswati Apartment for married students. These are spacious, well furnished hostels. Prof. M S SWAMINATHAN LIBRARY is one of the largest and the finest agrobiological libraries in South East Asia housing a total of 3.75 lakh plus publications.The Library has on its role 2000 member viz. students, scientists and technical staff. It also serves about 2500 visitors every year. The institute has well established system and procedure for maintaining and utilizing physical, academic and support facilities-libraries, laboratory, sports complex, computers, class rooms. Repair and maintenance of official, residential and hostel is done the Central Public Work department. In addition to CPW, maintenance and engineering unit (MEU Unit) of the Institute coordinates with the CPWD and also undertakes the repair and maintenance if it is urgent. The institute IT cell is managed by team of IT experts lead by Incharge AKMU (Agri Knowledge Management Unit).

## Student Support and Progression

In the past five years, the Indian Agricultural Research Institute (IARI) has inculcated meaningful experience for learning and facilitated for their holistic development. Over the last five years, 2111 students have benefited from Government schemes / Institutional schemes. The institution has an organized and well-structured guidance and counseling system. During the last five years, more than 3000 Agricultural Research Scientist (ARS) and other services-related activities were conducted by the institution to provide guidance and motivation to students for competitive examinations

Additionally, IARI examines student performance and alumni profiles, as well as the progression of students to higher education and gainful employment. Over the course of the 2017-2022 academic years, 430 students got the placement through on campus services. Over the last five years, several capacity building and skill enhancement initiatives have been taken up by the IARI in which more than 6518 students were enrolled. From 2017 to 2022, a large number of students qualified for state, national, and international examinations.

By providing sustainable good practices, the institute facilitates optimal progress for students. Students have been awarded and medaled for outstanding performance in sports and cultural activities during 2017-2022 at inter-university, state, national, and international events. For the growth of students, Students are encouraged to participate in social, cultural, and leisure activities at the institution, which is equipped with the necessary infrastructure. Providing students with opportunities to develop various skills and competencies through participation in activities, IARI has organized many sports, cultural events, and competitions over the past five years. The mentoring of the students starts with orientation programme organized at the Institute level, attended by all the stakeholders viz. Director, Joint Directors, Associate Dean, Wardens, Librarian, Medical Officer, Head of Divisions, Professors and faculty members. During orientation programme, students are made aware about the facilities available in the institute, past achievements of the institute, various academic rules and regulations, expectations of the institute from the students and rich legacy and culture of the institute etc

## Governance, Leadership and Management

ICAR- IARI has a clearly stated mission which is to provide visionary leadership for "Science-led sustainable and globally competitive agriculture for food, nutrition and livelihood security, through exploring new frontiers of science, developing human resources and policy guidelines for creating a vibrant, responsive and resilient agriculture". The institution is unique in governance, leadership and management by adopting decentralized and participatory approach at all the levels of functioning. The administrative head is Director who is supported and ably guided by The Board of Management and four Councils, namely, Research Advisory Council, Academic Council, Extension Council and Executive Council, which provide the overall management and direction. The institute Director is assisted by Joint Director (Research), Joint Director (Education) & Dean, Joint Director (Extension) and Joint Director (Administration). There are 20 discipline-based divisions, 2 multidisciplinary centres, 8 regional stations, 2 off-season nurseries, 10 centres of AICRP and a common set of service units. Departmental activities are looked after by Head, with the support of Professor, Divisional Budget and Research Committee and Board of Studies.

Academic activities of the Institute are monitored by Academic Council, whereas, the research activities of the Institute are evaluated by Research Advisory Committee and Institute Research Council, and extension activities are reviewed by Extension Council. Capacity building of teachers, technical staff and students are regularly taken up by orientation programmes, refresher courses, faculty development programmes, CAFT, conference, seminar, symposia, workshop, etc. in the Institute as well as sending them to other Institutes across India and abroad.

The Institute is fully funded by both Plan and Non-Plan grant of Government of India. Substantial income is also generated through commercialization of technology and intellectual property management. The Institute has sound mechanism of Three Tier Audit, viz. External Audit through the Office of Director General of Audit, Central Expenditure (C&AG), Internal Inspection through designated CA firm of ICAR headquarter and Internal Audit through Internal Audit Section of Finance Wing. Internal Quality Assurance System is in place in the Institute at various levels and is an ongoing and continual process through the deliberations of RAC, IRC, Academic Council, auditing, etc.

## Institutional Values and Best Practices

· The Indian Agricultural Research Institute, New Delhi followed various institutional values with the aim to impregnate these among the staff and students and sensitize them for various ethics and best practices to

make the campus green, environmentally friendly and livable. The institute has 24 hours security for safety of women, a dedicated women's cell against sexual harassment. The radioisotopes, biomolecules are disposed in a designated area and bio-incinerator for management of hazardous laboratory wastes. Solar panels, biogas plant and power saving LED bulbs are used in the campus as energy conservation measures. The institute has developed two best management practices viz., "Pusa Decomposer" for in-situ and ex-situ crop residue decomposition as a mitigating measure against rice stubble burning and PUSA Farm Sun Fridge (FSF), a battery-less green energy solar-refrigerated-evaporative cold storage for storing of perishable agricultural produce. A number of varieties/hybrids of wheat, rice, maize, mustard, pearl millet, and horticultural crops have been developed with improved yield, quality and climate resilience. Portable Pusa Soil Test Fertilizer Recommendation (STFR) meter has been developed, improved, and licensed for marketing with the aim to reduce input cost, enhancing crop productivity and soil health. There is a restricted entry of unauthorized automobiles inside the campus. The campus has lots of greenery with abundant plantations, green fields, orchards, landscaping with flower gardens. The institute has created the facilities of lift, ramp/rails for wheel chair movement, rest rooms, brail tiled path, Divyangjan and older people friendly footpaths, washrooms and scribes for examination. The institute efficiently conserves water in harvesting tank and recharge points and there is a dedicated waste water treatment plant which treats waste water for reuse. The staff of the institute is sensitized for "Swachh Bharat Mission" and "Vigilance Awareness Week". The students are sensitized in anti-ragging and anti-plagiarism policies, ethics in agricultural research, rural development, and environmental protection by various courses offered by the PG School. IARI campus represents a true example of 'Unity in Diversity' which boasts faculty and students from all over the country. The institute celebrates various religious festivals, and commemorates a number of national and international events.

# 2. PROFILE

## 2.1 BASIC INFORMATION

| Name and Address of the University | |
| --- | --- |
| Name | Indian Agricultural Research Institute |
| Address | ICAR-INDIAN AGRICULTURAL RESEARCH INSTITUTE PUSA CAMPUS |
| City | NEW DELHI |
| State | Delhi |
| Pin | 110012 |
| Website | www.iari.res.in |

| Contacts for Communication | | | | | |
| --- | --- | --- | --- | --- | --- |
| Designation | Name | Telephone with STD Code | Mobile | Fax | Email |
| Director | Ashok Kumar Singh | 011-25843375 | 9899045037 | - | director@iari.res.in |
| IQAC / CIQA coordinator | Pramod Kumar | 011-25842416 | 9910633210 | - | incharge_pme@iari.res.in |

| Nature of University | |
| --- | --- |
| Nature of University | Deemed University |

| Type of University | |
| --- | --- |
| Type of University | Unitary |

| Establishment Details | |
| --- | --- |
| Establishment Date of the University | 01-04-1905 |
| Status Prior to Establishment,If applicable | |

| Recognition Details | | |
|---|---|---|
| **Date of Recognition as a University by UGC or Any Other National Agency :** | | |
| **Under Section** | **Date** | **View Document** |
| 2f of UGC | | |
| 12B of UGC | | |

| University with Potential for Excellence | |
|---|---|
| Is the University Recognised as a University with Potential for Excellence (UPE) by the UGC? | No |

| Location, Area and Activity of Campus | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Campus Type** | **Address** | **Location\*** | **Campus Area in Acres** | **Built up Area in sq.mts.** | **Programmes Offered** | **Date of Establishment** | **Date of Recognition by UGC/MHRD** |
| Main campus | ICAR-INDIAN AGRICULTURAL RESEARCH INSTITUTE PUSA CAMPUS | Urban | 1235 | 571000 | M.Sc/ MTech and PhD | | |

# 2.2 ACADEMIC INFORMATION

**Furnish the Details of Colleges of University**

| Type Of Colleges | Numbers |
|---|---|
| Constituent Colleges | 0 |
| Affiliated Colleges | 0 |
| Colleges Under 2(f) | 0 |
| Colleges Under 2(f) and 12B | 0 |
| NAAC Accredited Colleges | 0 |
| Colleges with Potential for Excellence(UGC) | 0 |
| Autonomous Colleges | 0 |
| Colleges with Postgraduate Departments | 0 |
| Colleges with Research Departments | 0 |
| University Recognized Research Institutes/Centers | 0 |

| Is the University Offering any Programmes Recognised by any Statutory Regulatory Authority (SRA) | : Yes |
|---|---|

| SRA program | Document |
|---|---|
| ICAR | 110677_7400_3_1661425802.pdf |

**Details Of Teaching & Non-Teaching Staff Of University**

| | Teaching Faculty | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Professor** | | | | **Associate Professor** | | | | **Assistant Professor** | | | |
| | Male | Female | Others | Total | Male | Female | Others | Total | Male | Female | Others | Total |
| Sanctioned | | | | 61 | | | | 128 | | | | 373 |
| Recruited | 31 | 9 | 0 | 40 | 94 | 21 | 0 | 115 | 218 | 110 | 0 | 328 |
| Yet to Recruit | | | | 21 | | | | 13 | | | | 45 |
| On Contract | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Non-Teaching Staff | | | | |
|---|---|---|---|---|
| | **Male** | **Female** | **Others** | **Total** |
| Sanctioned | | | | 423 |
| Recruited | 221 | 104 | 0 | 325 |
| Yet to Recruit | | | | 98 |
| On Contract | 0 | 0 | 0 | 0 |

| Technical Staff | | | | |
|---|---|---|---|---|
| | **Male** | **Female** | **Others** | **Total** |
| Sanctioned | | | | 609 |
| Recruited | 342 | 49 | 0 | 391 |
| Yet to Recruit | | | | 218 |
| On Contract | 0 | 0 | 0 | 0 |

**Qualification Details of the Teaching Staff**

| Permanent Teachers | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Highest Qualification** | **Professor** | | | **Associate Professor** | | | **Assistant Professor** | | | |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | Total |
| D.sc/D.Litt/ LLD/DM/M CH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 200 | 55 | 0 | 48 | 25 | 0 | 51 | 41 | 0 | 420 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 15 | 0 | 43 |
| UG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Temporary Teachers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Highest Qualificatio n** | **Professor** | | | **Associate Professor** | | | **Assistant Professor** | | |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | Total |
| D.sc/D.Litt/ LLD/DM/M CH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Part Time Teachers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Highest Qualificatio n** | **Professor** | | | **Associate Professor** | | | **Assistant Professor** | | |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | Total |
| D.sc/D.Litt/ LLD/DM/M CH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| UG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Distinguished Academicians Appointed As**

| | **Male** | **Female** | **Others** | **Total** |
|---|---|---|---|---|
| Emeritus Professor | 0 | 0 | 0 | 0 |
| Adjunct Professor | 3 | 0 | 0 | 3 |
| Visiting Professor | 0 | 0 | 0 | 0 |

**Chairs Instituted by the University**

| Sl.No | Name of the Department | Name of the Chair | Name of the Sponsor Organisation/Agency |
|-------|------------------------|-------------------|------------------------------------------|
| 1 | NIL | NIL | NIL |

**Provide the Following Details of Students Enrolled in the University During the Current Academic Year**

| Programme | | From the State Where University is Located | From Other States of India | NRI Students | Foreign Students | Total |
|-----------|--------|------|------|------|------|------|
| PG | Male | 0 | 158 | 0 | 2 | 160 |
| | Female | 0 | 97 | 0 | 0 | 97 |
| | Others | 0 | 0 | 0 | 0 | 0 |
| Doctoral (Ph.D) | Male | 0 | 149 | 0 | 3 | 152 |
| | Female | 0 | 98 | 0 | 0 | 98 |
| | Others | 0 | 0 | 0 | 0 | 0 |

| Does the University offer any Integrated Programmes? | No |
|------------------------------------------------------|-----|

**Details of UGC Human Resource Development Centre, If applicable**

| Year of Establishment | Nill |
|-----------------------|------|
| Number of UGC Orientation Programmes | 0 |
| Number of UGC Refresher Course | 0 |
| Number of University's own Programmes | 0 |
| Total Number of Programmes Conducted (last five years) | 0 |

**Accreditation Details**

| Cycle Info | Accreditation | Grade | CGPA | Upload Peer Team Report |
|------------|---------------|-------|------|-------------------------|
| Cycle 1 | Accreditation | A+ | 3.51 | NAAC - Certificate of Accreditation.pdf |

## 2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

| Department Name | Upload Report |
| --- | --- |
| Agricultural Chemicals | [View Document](#) |
| Agricultural Economics | [View Document](#) |
| Agricultural Engineering | [View Document](#) |
| Agricultural Extension | [View Document](#) |
| Agricultural Physics | [View Document](#) |
| Agronomy | [View Document](#) |
| Biochemistry | [View Document](#) |
| Entomology | [View Document](#) |
| Floriculture And Landscaping | [View Document](#) |
| Food Science And Postharvest Technology | [View Document](#) |
| Fruits And Horticultural Technology | [View Document](#) |
| Genetics | [View Document](#) |
| Indian Agricultural Statistics Research Institute | [View Document](#) |
| Microbiology | [View Document](#) |
| National Bureau Of Plant Genetic Resources | [View Document](#) |
| National Institute Of Plant Biotechnology | [View Document](#) |
| Nematology | [View Document](#) |
| Plant Pathology | [View Document](#) |
| Plant Physiology | [View Document](#) |
| Seed Science And Technology | [View Document](#) |
| Soil Science And Agriculture Chemistry | [View Document](#) |
| Vegetable Science | [View Document](#) |

**Institutional preparedness for NEP**

| 1. Multidisciplinary/interdisciplinary: | The faculty works on multidisciplinary and interdisciplinary research projects. Such projects are also preferred by many of research funding agencies |
| --- | --- |

   

| | |
|---|---|
| | like DBT, DST, ICAR-NASF, etc.All the M Sc/ M. Tech & PhD degree have provisions for major subjects and minors subjects to be opted by students from other disciplines. The students advisory committee also comprises of members from major and minor disciplines based on nature of research work chosen by the student. The students are encouraged to take up thesis research topics which are interdisciplinary in nature. |
| 2. Academic bank of credits (ABC): | IARI has 22 disciplines each offering courses with credits of ranging from 1 to 4. The minimum of 45 (55 for courses in Agricultural Extension and Agricultural Economics) credits of successful post-graduate work shall be required for students preparing for M.Sc./ M.Tech. degree in addition to other compulsory courses. In case of students preparing for PhD degree they shall have to take minimum of 36 credits (45 in case of Agricultural Statistics, Agricultural Extension and Agricultural Economics). Institute has registered on UGC web portal for Academics. |
| 3. Skill development: | A number of departments of the institute are recognised as Center for Advanced Faculty Training (CAFT) centres. The CAFT centres receive funds from ICAR for organising training programme for faculty of NARES system. The ICAR also provides fund for organising training programme for non-teaching staff. Such training programmes lead to development of skill of the teaching and non-teaching staff. The NAHEP programme organises training programme for the students in frontier areas of science and technology. In various externally funded projects, SCSP programme, TSP programme, MGMG programmes the institute organises the training and skill development programme for famers. The ZTMBPD also organises the training programme in identified technologies for enterpreneurs leading to setup of startups/ agribusiness. |
| 4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course): | The Covid-19 and post Covid-19 period, the courses are being taught in online mode. The teaching is encouraged to be in English & Hindi. The students and teachers are encouraged to wear the dress of their choice. The students' mess facility is based on region to suit to their taste and preference. The students are also encouraged to submit thesis written in Hindi |

| | language. The scientists are encouraged to apply for awards for books and research papers written in Hindi. |
|---|---|
| 5. Focus on Outcome based education (OBE): | The IARI promotes outcome based education. The students have to submit thesis and research papers. The students are encouraged to file patents and commercialize technologies developed out of their thesis work. The students thesis is uploaded on Krishikosh. The quality of thesis is ensured through plagiarism check before Submission. The students have to publish two research papers of NAAS rating > 6.0 for award of degree. The syllabus is revised from time to time following recommendation of Deans committee report. The revisions in courses are taken up to make the courses more relevant as per changing demand of market. The training programmes are organised under NAHEP programme in the frontier areas so that the students are equipped with skills in frontier areas of science and technology which enables them to seek job. |
| 6. Distance education/online education: | During the COVID 19 period the online education picked up with the use of online platforms the faculty was able to take classses and is still continuing. The institute has a number of outreach campuses like ICAR-IIHR, ICAR-CIAE, ICAR-CIPHET, etc the students are taught and guided from IARI with the use of online platforms. The institute has also started PG activities at IARI-Jharkhand and IARI-Assam. The campuses are fully equipped with hostel, classroom, laboratory, experimental fields, etc. The students will be staying in these campuses and undertaking classes and practicals. Thus the institute is taking steps to promote distance education/ online education. The institute is also reaching large number of farmers through MGMG programme, Pusa Samachar, training programme for farmers and entrepreneurs to impart informal education to various stakeholders of rural sector. |

# Extended Profile

## 1 Program

**1.1**

**Number of programs offered year-wise for last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 50 | 50 | 48 | 48 | 48 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | View Document |

**1.2**

**Number of departments offering academic programmes**

**Response: 19**

## 2 Students

**2.1**

**Number of students year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 519 | 476 | 437 | 339 | 339 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | View Document |

**2.2**

**Number of outgoing / final year students year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 285 | 252 | 242 | 239 | 237 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | View Document |

**2.3**

**Number of students appeared in the University examination year-wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 285 | 252 | 242 | 239 | 237 |
| File Description | | | Document | |
| Institutional data in prescribed format | | | [View Document](#) | |

**2.4**

**Number of revaluation applications year-wise during the last 5 years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

# 3 Teachers

**3.1**

**Number of courses in all programs year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 1229 | 1327 | 639 | 676 | 736 |
| File Description | | | Document | |
| Institutional data in prescribed format | | | [View Document](#) | |

**3.2**

**Number of full time teachers year-wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 447 | 468 | 491 | 490 | 505 |
| File Description | | | Document | |
| Institutional data in prescribed format | | | [View Document](#) | |

**3.3**

**Number of sanctioned posts year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 578 | 578 | 578 | 578 | 578 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

# 4 Institution

## 4.1

**Number of eligible applications received for admissions to all the programs year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 32958 | 42918 | 34017 | 31376 | 27668 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 4.2

**Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 321 | 284 | 260 | 168 | 167 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 4.3

**Total number of classrooms and seminar halls**

**Response: 50**

## 4.4

**Total number of computers in the campus for academic purpose**

**Response: 1989**

**4.5**

**Total Expenditure excluding salary year-wise during last five years ( INR in Lakhs)**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 11319.42 | 12811.52 | 16880.54 | 17803.58 | 9698.54 |

# 4. Quality Indicator Framework(QIF)

## Criterion 1 - Curricular Aspects

### 1.1 Curriculum Design and Development

**1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.**

**Response:**

With the current emphasis of teaching and training aimed towards developing human resources suited to industry, environmental sustainability and entrepreneurship, the courses of all the disciplines were comprehensively revised, with inputs from students and faculty. Besides including both basic and applied aspects of various topics, a multidisciplinary approach was highlighted to sensitize the students and make them appreciate a more holistic understanding of the subject. Specialized course in niche areas were developed, while basic courses were upgraded with latest advances in the field. Although online platforms cannot replace hands-on skill development, videos were prepared to familiarize and give the students a "feel" of the methods/techniques/ technologies. Recent breakthroughs in digitalization, modern electronics, use of software and online platforms are now integrated into the courses, so that self-employment or jobs in the service sector or agricultural sectors becomes more a reality. The value of education provided by an institution is intricately related to the employability of the scholars and their relevance in human resource generation., and the newly re-oriented courses fulfill these criteria.

| File Description | Document |
|---|---|
| Link for Additional information | [View Document](#) |

**1.1.2 Percentage of Programmes where syllabus revision was carried out during the last five years.**

**Response:** 100

1.1.2.1 **How many Programmes were revised out of total number of Programmes offered during the last five years**

Response: 244

1.1.2.2 **Number of all Programmes offered by the institution during the last five years.**

Response: 244

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| Details of Programme syllabus revision in last 5 years | [View Document](#) |
| Any additional information | [View Document](#) |

**1.1.3 Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the last five years**

**Response:** 2.39

1.1.3.1 Number of courses having focus on employability/ entrepreneurship/ skill development year-wise during the last five years

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 19 | 19 | 21 | 20 | 20 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 1.2 Academic Flexibility

**1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the last five years.**

**Response:** 0.82

1.2.1.1 **How many new courses were introduced within the last five years.**

Response: 38

1.2.1.2 **Number of courses offered by the institution across all programmes during the last five years.**

Response: 4607

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

**1.2.2 Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented  (Data for the latest completed academic year).**

**Response:** 100

**1.2.2.1 Number of Programmes in which CBCS / Elective course system implemented.**

Response: 50

| File Description | Document |
| --- | --- |
| Institutional data in prescribed format | <u>View Document</u> |

## 1.3 Curriculum Enrichment

**1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics ,Gender, Human Values ,Environment and Sustainability into the Curriculum**

**Response:**

Institute integrates Cross-cutting issues of the society like Moral Values, Human Values, Professional Ethics, Ethical Values Gender Equality, Environmental Awareness, which are inseparable part of our curriculum.

**Moral Values, Human Values & Professional Ethics**:  A compulsory course on Agricultural research, research ethics is taught to students

**Gender Sensitization and equality**: A course on *Gender Sensitization for Development* is an integral part of Couse curriculum. Institute has Women Grievance Cell and Grievance Redressal Cell to address and promote issue related to gender equity among staff and students. It deals with related issues of safety and security of female students, staff and faculty. There are separate Boys & Girls hostel (In-campus) for providing the safe environment to all students. Gender Advancement for Transforming Institutions (GATI) has been adopted by IARI, to create an environment for equal participation of girls/women and integrating in terms of gender profile, gender advancement, gender career progression, leadership, gender policies, procedures, practices, gender climate, organizational culture, institutional values, best practices as an institutional strategy for gender integration.

**Environment & Ecology**: The discipline of Environmental Science offers several courses related to environmental pollution and its prevention, environmental impact assessment, environmental microbiology, toxicology, climate change etc. These courses are offered for creating awareness and developing importance of environment among students. Institute has invested in ground water recharging system, solar electricity generation and STP. The STP water is used for irrigation of fields. Tree plantation activity is regularly undertaken. Institute celebrates days related to environmental importance like Earth day, Environment day and Ozone day.  Workshop/ seminars on Environment & Ecology are organized to spread awareness about the importance of environment.

**1.3.2 Number of value-added courses for imparting transferable and life skills offered during last five years.**

**Response:** 0

| 1.3.2.1 **How many new value-added courses are added within the last five years.** | |
|---|---|
| **File Description** | **Document** |
| Institutional data in prescribed format | [View Document](View Document) |

**1.3.3 Average Percentage of students enrolled in the courses under 1.3.2 above.**

**Response:** 42.1

1.3.3.1 **Number of students enrolled in value-added courses imparting transferable and life skills offered year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 199 | 191 | 180 | 163 | 145 |

**1.3.4 Percentage of students undertaking field projects / research projects / internships (Data for the latest completed academic year).**

**Response:** 54.91

1.3.4.1 **Number of students undertaking field projects or research projects or internships.**

Response: 285

| **File Description** | **Document** |
|---|---|
| List of Programmes and number of students undertaking field projects research projects/ / internships (Data Template) | [View Document](View Document) |

## 1.4 Feedback System

**1.4.1 Structured feedback for design and review of syllabus – semester-wise / year-wise is received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni**

**Response:** C. Any 2 of the above

| **File Description** | **Document** |
|---|---|
| Institutional data in prescribed format | [View Document](View Document) |

**1.4.2 Feedback processes of the institution may be classified as follows:**

**Response:** B. Feedback collected, analysed and action has been taken

29-11-2022 06:30:27

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

# Criterion 2 - Teaching-learning and Evaluation

## 2.1 Student Enrollment and Profile

**2.1.1 Demand Ratio (Average of last five years)**

**Response:** 75.19

2.1.1.1 **Number of seats available year wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 542 | 504 | 468 | 373 | 378 |

| File Description | Document |
|------------------|----------|
| Demand Ratio (Average of Last five years) based on Data Template upload the document | [View Document](#) |

**2.1.2 Average percentage of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per applicable reservation policy during the last five years (Excluding Supernumerary Seats)**

**Response:** 125.88

2.1.2.1 **Number of actual students admitted from the reserved categories year wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 332 | 316 | 299 | 247 | 255 |

| File Description | Document |
|------------------|----------|
| Average percentage of seats filled against seats reserved (Data Template) | [View Document](#) |

## 2.2 Catering to Student Diversity

**2.2.1 The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners**

**Response:**

The institute has a robust in-built mechanism for continuous monitoring of the students; regular quizzes,

term-paper presentations and mid-term examinations are held in each course and individual and group assignments given to the students. Such activities not only keep the students on their toes but also boost their confidence and sense of involvement, which is of utmost importance for creating interest in the course. In addition, performance in these auxiliary teaching activities clearly segregates the slow learners from the advanced learners. Once identified, the slow learners are given extra attention, time and study material by the course instructors. Besides, after this initial assessment heterogenous groups, comprising of advanced and slow learners, are made in each course for various group activities and they are made aware about the advantages of the peer-learning. Advanced learners are requested to help out slow learners in every aspect and clarify their minutest and silliest of their doubts to the extent possible. This practice is beneficial to both the categories of the students as it clarifies the doubts of the slow learners and provides deeper insights to the advanced learners.

Further, all faculty members have been clearly instructed to conduct a quiz in the introductory class to assess the different levels of students and their different teaching requirements. The faculty members cover the required fundamental aspects in their initial classes to bring student population to the similar level. Students with deficiency in basic levels of specific subject are advised to consult required literature, and students with difficulties in English are asked to take special English courses (non-credit) offered by the institute.

Furthermore, the allotment of the chairpersons to all the students is completed within 1-2 months and their Advisory committee constituted along with PPW submission. The students can approach any their advisory committee members and for that matter any of the faculty members including HOD and professor of the division in case of any difficulty encountered.

The institute offers remedial courses to the students who have not done any course related to Agriculture during their Bachelor's or Master's degree programme. These students need to undergo introductory courses on agriculture during the first year of their study at IARI. All the international non-agricultural graduates admitted at IARI shall also have to complete the prescribed remedial courses on Introductory Agriculture as per the approved schedule. Besides, the students from non-English speaking countries undertake English language course.

**2.2.2 Student - Full time teacher ratio (Data for the latest completed academic year)**

**Response:** 1:1

## 2.3 Teaching- Learning Process

**2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences**

**Response:**

The motto of the IARI is to generate globally-competent human resource, who can excel in any environment and circumstances and can positively address to the ever-changing needs and demands of the society and serve the nation in the diverse fields of agriculture. We earnestly believe that graduate from our institute should not be only job-seekers but they should be trained enough to start their own enterprises and be the job provider for a larger cause of the nation. To accomplish this objective, the students are engaged

in various field and laboratory exercises, wherein they are exposed to real-life problems and expected to encounter novel and unfamiliar situations that support new learnings and experiences. The purpose of such exercises is to engage them intellectually, creatively, emotionally and socially in a task in order to impart them priceless conceptual insights. Such exercises are usually followed by brainstorming sessions, where students dissect and critically reflect the results of the case studies they were involved in and asked to design possible strategies to address the problems encountered during the course of the exercise. Students are provided sufficient opportunities to take new initiative, make their own decisions and be accountable for the results.

Further, the scientists of IARI are spearheading "Mera Gaon Mera Gaurav (MGMG)"-a mega scheme of Indian Council of Agricultural research (ICAR) to promote direct interface of the scientists with farmers. Under this scheme, all scientists are part of a MGMG team, which adopts a cluster five villages for the hand-holding of the farmers of that village especially the small and marginal farmers belonging to reserved categories. These MGMG teams mandatorily visit these adopted villages for the demonstration of their technologies for the benefit of the farmers. The students are also encouraged to accompany their respective chairpersons for such activities to acquire knowledge about the lab-to-land transfer of technologies and to gain in-field training. Besides, students are supported to present their research findings in various symposia, conferences and workshops. The students are promoted and motivated to pose questions during the lectures and seminars to inculcate analytical thinking skills in them. They are made to understand "what?" and "why?" of a problem and asked to find "how?" using their own understanding and analytical skills. The senior Ph.D. students having aptitude, skills and knowledge are involved in the teaching programme to improve their understanding of the subject and to impart them necessary training for the teaching.

**2.3.2 Teachers use ICT enabled tools including online resources for effective teaching and learning process.**

**Response:**

The institute follows ICT enabled teaching in addition to the traditional classroom education. There is a well-established Agricultural Knowledge Management Unit (AKMU), which is involved in hosting and maintenance of e-resources and developing ICT in agricultural research. Internet services (10 Gbps NKN connectivity) in IARI are being provided by AKMU to all the divisions and student hostels. All the classrooms and laboratories in different Divisions are well equipped with modern ICT-tools. The Prof. M.S. Swaminathan Library at IARI is a constituent of Consortium for e-Resources in Agriculture (CeRA) under ICAR, which provides 24x7 online accesses of select journals and e-books in agricultural and allied sciences to all researchers, teachers and students.

The faculty members are routinely using online teaching platform such as Zoom/Google Meet/Microsoft teams for conducting classes, seminars and viva-voce examinations. Majority of the academic meetings are conducted by the faculty members using these online platforms. Most of the divisions have smart classrooms with high-end LCD projectors supplemented and complemented with interactive boards and high-resolution cameras. In addition, the institute has developed a robust and comprehensive PGS online management system, which enables online execution of majority of the teaching related activities. The course-associates involved in the teaching of a course upload the course schedule along with all the teaching materials including Powerpoint presentations, and course-centric study material on this online

platform. The institute gives due weightage to the innovative online teaching methods developed by faculty members while awarding Best Teacher Award of the Institute.

The institute has its own You tube channel on which education is provided to various stakeholders in different languages on weekly basis. The institute is also effectively utilizing various social media platforms for dissemination of information and knowledge. Under a world bank-funded National Agricultural Higher Education Project (NAHEP), the scientists of IARI are involved as "Content Creators" and "Content Reviewers" for the development of e-Learning systems (e-courses), and students and faculty members of all agricultural universities have been provided "anytime anywhere" access. The faculty of IARI is also involved in the development of Massive Open Online Courses (MOOCs) under the umbrella of this NAHEP project. The institute takes legitimate pride in being recognized as a Centre for Advanced agricultural Science and Technology (CAAST) in Genomics under NAHEP project in which huge ICT infrastructure and digital information have been created for the benefit of the students enrolled in agricultural institutes. The renowned scientists from across the world, who are stalwarts in their own fields, are invited as guest speakers for delivering online lectures using these ICT tools for expanding the vision and horizon of the students.

**2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year )**

**Response:** 1:1

2.3.3.1 **Number of mentors** ?????????????? ???????

Response: 446

| File Description | Document |
|---|---|
| Circulars pertaining to assigning mentors to mentees | [View Document](#) |

## 2.4 Teacher Profile and Quality

**2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years**

**Response:** 83.08

| File Description | Document |
|---|---|
| Year wise full time teachers and sanctioned posts for 5 years | [View Document](#) |

**2.4.2 Average percentage of full time teachers with Ph.D./D.M/M.Ch./D.N.B Superspeciality/D.Sc./D'Lit. year-wise during the last five years**

**Response:** 89.4

2.4.2.1 **Number of full time teachers with *Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. /***

*D.Litt.* year wise during the last five years

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 431     | 448     | 421     | 425     | 416     |

| File Description | Document |
|------------------|----------|
| List of number of full time teachers with Ph D/D M/M Ch/D N B Superspeciality/DSc/D Lit and number of full time teachers for 5 years | View Document |

**2.4.3 Average teaching experience of full time teachers in the same institution (Data for the latest completed academic year in number of years)**

**Response:** 11.2

2.4.3.1 **Total experience of full-time teachers**

Response: 5005

| File Description | Document |
|------------------|----------|
| List of Teachers including their PAN, designation, dept and experience details | View Document |

**2.4.4 Average percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government/Govt. recognised bodies during the last five years**

**Response:** 169.93

2.4.4.1 **Number of full time teachers receiving awards from state /national /international level from Government/Govt. recognized bodies year wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 207     | 183     | 196     | 120     | 110     |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | View Document |

## 2.5 Evaluation Process and Reforms

**2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results year-wise during the last five years**

**Response:** 9.8

2.5.1.1 **Number of days from the date of last semester-end/ year- end examination till the declaration of results year wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 14 | 14 | 07 | 07 | 07 |

| File Description | Document |
|------------------|----------|
| List of Programmes and date of last semester and date of declaration of results | [View Document](#) |

**2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years**

**Response:** 0

2.5.2.1 **Number of complaints/grievances about evaluation year wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

**2.5.3 IT integration and reforms in the examination procedures and processes (continuous internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution**

**Response:**

The development of PGS online management system at IARI has clearly expedited each and every activity related to teaching, including examination process, thereby resulting in tremendous improvement in the efficiency and effectivity. The students and faculty members now have more time at their disposal to focus on the academic activity. Furthermore, IT integration has modernized the entire examination system bringing in more accountability and transparency in the whole process leading to more students' satisfaction and lesser grievances and complaints. Currently, the students are using following online facilities: registration of approved courses, submission of PPW and ORW of thesis research work, payment of fees, viewing the results of various examinations, submitting proposals for qualifying *viva voce* examination, thesis submission and for addition/deletion in their Advisory Committee. The credit seminars, ORW presentations, thesis seminar presentations, Qualifying *viva voce* examinations, thesis *viva-voce*

examinations of students, and BOS meetings for the progress reports' monitoring of students are held on the online platforms, which has drastically cut down the travel of faculty members within the campus for partaking in the aforementioned academic activities. Google forms are created by faculty members for the purpose of conducting various quizzes and surveys. The students are given an opportunity to go through their evaluated answer scripts of end-term examinations and their grievances, if any, are addressed instantly and duly rectified without any fee. The integration of IT has also enabled error-free computation of grades obtained in various courses and generation of OGPA. Semester-wise examination schedule(date-sheet) is prepared and distributed amongst all the concerned in the online mode. The results of the various examinations are also submitted online by the respective course leaders, which has significantly reduced the time gap between generation of the examination result and its access to the students.

**2.5.4 Status of automation of Examination division along with approved Examination Manual**

**Response:** 100% automation of entire division & implementation of Examination Management System (EMS)

| File Description | Document |
| --- | --- |
| Current manual of examination automation system and Annual reports of examination including the present status of automation | [View Document](#) |

## 2.6 Student Performance and Learning Outcomes

**2.6.1 The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents**

**Response:**

The PG School, IARI has developed a PG School calendar which contains the information pertaining to programmes offered, programme objectives, programme specific objectives, the course structure, and the course syllabi (a copy of this is uploaded on the IARI website as well as PGS online management system). The course syllabus prominently displays the course objectives and course outcomes. The syllabus also provides information about scheme of instruction and evaluation. All students are apprised of the objectives and expected outcomes of their programme on admission during orientation programme. Both M.Sc./M.Tech. and Ph.D. students need to take courses in their Major and Minor fields in order to gain comprehensive knowledge.

After having successfully completed the major portion (at least 75%) of their course work, written qualifying examination in the major and minor fields is conducted. After successful completion of these written qualifying examinations, a pre-comprehensive oral examination is conducted at divisional level wherein students are evaluated and prepared by the faculty members of their respective disciplines for the oral qualifying examination to be conducted by external experts in addition to the members of the students' advisory committee. The qualifying examination is then held to test student's general mastery of the concerned scientific discipline and his/her general fitness for receiving degree from IARI-the most

prestigious institute in the field of agriculture.

Research work is mandatory for both Master and Ph.D. programmes. All the students must conduct research work, and submit a thesis for completing the degree programme. The outcome of their thesis work in terms of research paper publications and/or development of patents/copyrights/processes/methods/models/technologies carries a significant weightage when eligible students compete for the IARI Merit Medals and Best Student of the Year Award.

The syllabi of these courses are revised as per the needs and requirements of the various stakeholders to ensure that students are job-ready as soon as they get graduated from IARI. Furthermore, remedial introductory courses on agriculture have been designed for students, who have not been exposed to agricultural scientific disciplines in their bachelor's or Master degree programme. Besides, there are mandatory non-credit compulsory courses developed for students to improve their soft skills, scientific aptitude, research ethics, moral values and general awareness and also to make them aware about their social responsibilities. These courses are of utmost importance in this era of cut-throat competition and enable us to attain our programme objectives, which includes imparting moral values, ethics and social sensibilities amongst the students so that they can contribute meaningfully towards nation-building.

## 2.6.2 Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution

**Response:**

The attainment of POs, PSOs and COs is evaluated at various level; At the end of the semesters the students provide their feedback about each of the courses attended by them in that semester. A comprehensive evaluation proforma covering various aspects of the course has been developed for this purpose. The feedback submitted by the students is discussed by the Course leader with all the course associates and corrective measures and suggestions communicated to Professor of the Division. Board of Studies evaluates the feedback proformae submitted by the students at the end of each semester/trimester, wherein suggestions made by the students and faculty members are thoroughly discussed and strategies redesigned e.g. addition of new components under selected practical/theory topics, reshuffling of topics amongst the course instructors involved in the teaching of a particular course, inviting Guest lecturers having expertise in specific topics, incorporation of new assignments, arranging field/industrial visits for students for exposing them to real-life situations, incorporating term paper presentations and group discussions on recent developments related to the course content. The performance of the students in various examinations including competitive examinations, their participation and achievements in extracurricular, social and/or community activities and quality, ease and diversity of their placement across the sectors is considered as the litmus test for successful attainment of the POs, PSOs and COs, which in turn not only enables the students to acquire requisite skills, expertise and attitude needed to be successful in their respective careers but also ensures that they contribute effectively and efficiently towards the growth of the nation.

## 2.6.3 Pass Percentage of students(Data for the latest completed academic year)

**Response:** 100

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 285

2.6.3.2 **Total number of final year students who appeared for the examination conducted by the Institution.**

Response: 285

| File Description | Document |
| --- | --- |
| Upload list of Programmes and number of students passed and appeared in the final year examination | <span style="color:blue">View Document</span> |

## 2.7 Student Satisfaction Survey

**2.7.1 Online student satisfaction survey regarding teaching learning process**

**Response:**

| File Description | Document |
| --- | --- |
| Upload database of all currently enrolled students | <span style="color:blue">View Document</span> |

# Criterion 3 - Research, Innovations and Extension

## 3.1 Promotion of Research and Facilities

**3.1.1 The institution's Research facilities are frequently updated and there is a well defined policy for promotion of research which is uploaded on the institutional website and implemented**

**Response:**

The Institute is a constituent unit of the Indian Council of Agricultural Research, which is a Society registered under the Societies Registration Act XXI of 1960. The Director is the principal executive officer of the Institute. The Institute has five main bodies which are responsible for broad policy matters and decision making in the field of research, post-graduate education and training, extension education and administration. The powers and functions of these are:

**A. Board of Management (BOM)**

i. To consider the proposals for 5-Year Plan and Annual Plan of the Institute.

ii. To periodically review the progress of development schemes.

iii. To consider proposals for the annual budget and to allocate funds to various Divisions.

iv. Policy issues relating to the officers including the rights and obligations of the staff.

v. To consider the items of expenditure which are beyond the powers of the Director.

vi. To consider the action taken on the recommendations of the Grievances Cell and Institute Joint Council.

vii. To appoint such committees as may be deemed necessary.

**B. Executive Council (EC)**

i. The EC is the main task implementing body on administrative matters. The powers and functions are delegated by the Board of Management.

ii. The membership of the Executive Council is regulated mutatis mutandis in accordance with the provisions of relevant rules.

**C. Academic Council (AC)**

i. The AC is the main consultative, deliberative and task implementing body.

ii. It is responsible for broad policy matters on academic issues.

iii. It control and general regulatory powers on matters relating to education and training.

iv. For the maintenance of standards of instruction, education and examination.

v. For the determination of equivalence of degrees of candidates.

vi. Performs in relation to academic matters.

## D. Institute Research Council (IRC)

i. Consideration and evaluation of the Research Projects (RPF I).

ii. Consideration and evaluation of the on-going projects (RPF II), after these have been assessed by an expert.

iii. Advise on the fostering of linkages between the groups/divisions/institutes.

iv. Monitor the follow-up action on the recommendations of QRTs.

## E. Extension Council (EXC)

i. To review current extension programmes and progress.

ii. To suggest changes in the programmes as deemed desirable and appropriate.

iii. To review the position with regard to the provisions and use of extension facilities.

iv. To promote inter-disciplinary extension with outside agencies and institutions.

v. To bring about balanced horizontal and vertical coordination of extension activities.

vi. To recommend steps on action desirable for all-round progress of extension and their application.

## F. Research Advisory Committee (RAC)

i) To suggest research programmes based on national and global context of research in the thrust areas.

ii) To review the research achievements of the Institute and to see that these are consistent with the mandate of the Institute.

## G. Quinquennial Review Team (QRT)

Quinquennial review is the responsibility of the Institute to be carried out in collaboration with the subject matter division at ICAR (HQ) and is conducted once in every five years.

| File Description | Document |
|---|---|
| Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption | View Document |
| URL of Policy document on promotion of research uploaded on website | View Document |

**3.1.2 The institution provides seed money to its teachers for research (average per year, INR in Lakhs)**

**Response:** 1002.1

3.1.2.1 **The amount of seed money provided by institution to its faculty year-wise during the last five years (INR in lakhs).**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 1394.7 | 745 | 1135.3 | 1094 | 641.5 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | View Document |
| Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized | View Document |

**3.1.3 Percentage  of teachers receiving national / international fellowship / financial support by various agencies for advanced studies / research  during the last five years.**

**Response:** 9.62

3.1.3.1 **The number of teachers who received national / international fellowship / financial support by various agencies for advanced studies / research year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 13 | 45 | 51 | 66 | 56 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| e-copies of the award letters of the teachers | [View Document](#) |

**3.1.4 Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows enrolled in the institution during the last five years.**

**Response:** 1627

3.1.4.1 **The Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows enrolled in the institution year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 527 | 240 | 351 | 286 | 223 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

**3.1.5 Institution has the following facilities to support research**

1. **Central Instrumentation Centre**
2. **Animal House/Green House**
3. **Museum**
4. **Media laboratory/Studios**
5. **Business Lab**
6. **Research/Statistical Databases**
7. **Mootcourt**
8. **Theatre**
9. **Art Gallery**
10. **Any other facility to support research**

**Response:** A. 4 or more of the above

| File Description | Document |
|---|---|
| Upload the list of facilities provided by the university and their year of establishment | [View Document](#) |

**3.1.6 Percentage of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other recognitions by national and international agencies (Data for the latest completed academic year)**

**Response:** 36.84

**3.1.6.1 The Number of departments with UGC-SAP, CAS, DST-FIST , DBT, ICSSR and other similar recognitions by national and international agencies.**

Response: 7

| File Description | Document |
|---|---|
| Institutional data in prescribed format | View Document |
| e-version of departmental recognition award letters | View Document |

## 3.2 Resource Mobilization for Research

**3.2.1 Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the last five years (INR in Lakhs).**

**Response:** 94.32

3.2.1.1 **Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years (INR in Lakhs).**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 24.98 | 2.12 | 27.13 | 11.15 | 28.94 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | View Document |
| e-copies of the grant award letters for research projects sponsored by non-government | View Document |

**3.2.2 Grants for research projects sponsored by the government agencies during the last five years (INR in Lakhs).**

**Response:** 130938.92

3.2.2.1 **Total Grants for research projects sponsored by the government agencies year-wise during the last five years (INR in Lakhs).**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 682.69 | 2216.64 | 3844.8 | 121080.00 | 3114.787 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| e-copies of the grant award letters for research projects sponsored by government | [View Document](#) |

**3.2.3 Number of research projects per teacher funded by government and  non-government agencies during the last five years**

**Response:** 1.96

3.2.3.1 **Number of research projects  funded by government and non-government agencies during the last five years.**

Response: 223

3.2.3.2 **Number of full time teachers worked in the institution year-wise during the last five years..**

Response: 570

| File Description | Document |
|---|---|
| Supporting document from Funding Agency | [View Document](#) |
| Institutional data in prescribed format | [View Document](#) |
| Paste Link for the funding agency website | [View Document](#) |

# 3.3 Innovation Ecosystem

**3.3.1 Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge.**

**Response:**

**Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge**

**1. Development (ZTM-BPD) Unit for the creation and transfer of knowledge**

The Indian Agricultural Research Institute (ICAR-IARI) known to farmers as Pusa Institute is the pioneering institution set up in 1905, now a constituent institute of the Indian Council of Agricultural Research (ICAR) in the Department of Agricultural Research & Education of the Ministry of Agriculture & Farmers' Welfare, Government of India.

The Zonal Technology Management and Business Promotion Development (ZTM-BPD) Unit is the one-stop show window of ICAR-IARI to connect public sector agri-technologies to the corporate world and medium and small enterprises (MSMEs) in a business mode giving due importance to the intellectual property management, commercialization and incubation. The aim is to encourage, protect, market and

license the technologies developed by agricultural scientists to the industry with a focus on incubation process including Start-Ups and Farmer Producer Organizations (FPO)

Works ZTM-BPD do

- IP protection of innovations.
- Commercialization of technologies to Agro Industry.
- Providing incubation support to agri-preneurs/start-ups.
- Capacity building of agri-preneurs.
- Networking of mentors, resource persons, financial institutions, service providers, agri -professionals, agri-preneurs and scientific community.
- Collaboration with industry through consultancy, contract research, contract service etc. under Public Private Partnership mode (PME Cell).

## 2. Activities under Mera Gaon Mera Gaurav

An innovative initiative "Mera Gaon Mera Gaurav" has been planned to promote the direct interface of scientists with the farmers to hasten the lab-to-land process. The objective of this scheme is to provide farmers with the required information, knowledge and advisories on a regular basis by adopting villages.

A total of 120 teams of multidisciplinary scientists have been formed to work in 120 clusters of five villages, each i.e., covering 600 villages in NCR covering 17 districts and 4 states. One contact farmer from each village cluster has been identified so that they will help our scientists in carrying out the farmers-scientist interface. More than 2 lakes framers benefitted from IARI MGMG program during 2017-2021.

https://www.iari.res.in/files/Latest-News/Best_practice_on_MGMG.pdf

https://www.iari.res.in/index.php/en/mgmg

3. **Community engagement and impact**

IARI is engaged in the community and social impact through organizing Pusa Krishi Vigyan Mela, Flower show, Vegetable Demonstration, Field Demonstrations & Field Days, Kisan Diwas, Mahila Sashaktikaran Diwas, Entrepreneurship Diwas and day-to-day basis of Advisories to the farmers.

4. Other initiatives for the creation and transfer of knowledge

IARI has created many gateways by either developing or publishing resources, namely E-learning modules, Training manuals, Technological Options (Hindi and English), Prasaar Doot magazine, Extension literature, Technological videos, Press releases, Reports of events etc.

IARI also utilized the optimum advantages of social media through the broadcasting of Pusa Samachaar on YouTube, IARI on Social Platforms, Mobile/Online Apps developed at IARI, Hon'ble dignitaries at IARI events, Blogs on agriculture by IARI Scientists and inventory of radio and TV talks by IARI Scientists.

| File Description | Document |
|---|---|
| Upload any additional information | [View Document] |
| Paste link for additional information | [View Document] |

**3.3.2 Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development during the last five years.**

**Response:** 176

3.3.2.1 **Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 3 | 14 | 42 | 71 | 46 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document] |

**3.3.3 Number of awards / recognitions received for research/innovations by the institution / teachers / research scholars / students during the last five years.**

**Response:** 301

3.3.3.1 **Total number of awards / recognitions received for *research /* innovations won by institution / teachers / research scholars / students year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 23 | 112 | 75 | 62 | 29 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document] |
| e- copies of award letters | [View Document] |

## 3.4 Research Publications and Awards

**3.4.1 The Institution ensures implementation of its stated Code of Ethics for research through the following: 1. Inclusion of research ethics in the research methodology course work  2. Presence of Ethics committee  3. Plagiarism check through software 4. Research Advisory Committee**

**Response:** A. All of the above

| File Description | Document |
|---|---|
| Code of ethics for Research document, Research Advisory committee and ethics committee constitution and list of members on these committees, software used for Plagiarism check, link to Website | [View Document](#) |

**3.4.2 The institution provides incentives to teachers who receive state, national and international recognitions/awards  1.Commendation and monetary incentive at a University function 2.Commendation and medal at a University function 3. Certificate of honor 4.Announcement in the Newsletter / website**

**Response:** A.. All of the above

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| e- copies of the letters of awards | [View Document](#) |

**3.4.3 Number of  Patents published / awarded during the last five years.**

**Response:** 38

3.4.3.1 **Total number of  Patents published / awarded year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 4 | 8 | 2 | 14 | 10 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

**3.4.4 Number  of Ph.D's awarded per teacher during the last five years.**

**Response:** 2.17

3.4.4.1 **How many Ph.D's are awarded within last five years.**

Response: 482

3.4.4.2 **Number of teachers recognized as guides during the last five years**

Response: 222

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| URL to the research page on HEI web site | [View Document](#) |

**3.4.5 Number of research papers per teachers in the Journals notified on UGC website during the last five years**

**Response:** 9.25

3.4.5.1 **Number of research papers in the Journals notified on UGC website during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 926 | 927 | 890 | 804 | 897 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| Any additional information | [View Document](#) |

**3.4.6 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years**

**Response:** 5.91

3.4.6.1 **Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 449 | 430 | 497 | 825 | 638 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| Any additional information | [View Document](#) |

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**3.4.7 E-content is developed by teachers :**

      1. For e-PG-Pathshala
      2. For CEC (Under Graduate)
      3. For SWAYAM
      4. For other MOOCs platform
      5. Any other Government Initiatives
      6. For Institutional LMS

**Response:** D. Any 2 of the above

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

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**3.4.8 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed**

**Response:**

| File Description | Document |
|---|---|
| Bibliometrics of the publications during the last five years | [View Document](#) |

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**3.4.9 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution**

**Response:**

| File Description | Document |
|---|---|
| Bibiliometrics of publications based on Scopus/ Web of Science - h-index of the Institution | [View Document](#) |
| Any additional information | [View Document](#) |

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## 3.5 Consultancy

**3.5.1 Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy.**

**Response:**

With increasing importance of agriculture in national and international trade, new opportunities have opened up for effective and efficient transfer of knowledge, skills and technologies to the end- users. The changed times are more encouraging and rewarding than before for our scientists and staff. New opportunities can be more enriching for research and development work in terms of both, application of expertise as well as revenue generation to the individual and institutions. It is felt that interactive processes through consultancy services for external agencies. Consultancy shall mean professional services rendered to external agencies in terms of scientific, technical, engineering or other professional advice/assistance based on the expert knowledge and skill available in the ICAR system. All consultancy sendees in ICAR shall be institutional and shall be in the area of expertise of the individual(s) and shall preferably be in the thrust areas of ICAR-IARI.

**The Zonal Technology Management and Business Promotion Development (ZTM-BPD) Unit** of IARI nurtures relationships with industrial partners looking for innovative solutions to solve challenges faced by farming communities. It invites to explore the vast array of agricultural technologies, including the foundation of new product development and provide the private companies a competitive advantage. The ZTM & BPD Unit, IARI, transfers the technologies developed by ICAR-IARI as well as 14 other institutes of ICAR located in Northern parts of India to the Industry Partners. Due diligence and best practices are used in executing the licensing and transfer of technology agreements. ICAR-IARI (PME Cell) also provides consultancy, contract research and contract service under Public Private Partnership mode. ZTM & BPD Unit showcases IP protected technologies and know–how basket of around 250 agricultural technologies of different domains developed by ICAR-IARI for commercial use. Among the technology array available with IARI are market ready and some others are at validation, demonstration or scaling-up stages. IARI license the technologies to both private and public sectors. These technologies are transferred primarily on the basis of non-exclusive licensing agreements. The unit launches the marketing campaign about the technologies by direct contact/ social media/ circulating the flyers, brochures etc. among the prospective industries. Our corporate members will be given information on priority basis.

The Corporate/Institutional membership of ZTM & BPD Unit of IARI creates opportunities for building synergy between the Institute, its scientists and the Industry.

Information on new technologies developed under IARI is provided to them. News bulletin of IARI is shared with them on timely basis. Details on any event to be organized by IARI are shared with them, at the earliest. ZTM & BPD Unit provides the seeds to the corporate members on preference basis.

Who can be a member-

Any organization dealing with agriculture or related areas be it a private/public/non-governmental/professional body can become a member of the unit.

Membership Details

I.       Companies with turnover of Rs. 50 crores (Fee / annum= Rs. 10,000/-)

II.      Companies with turnover of less than Rs. 50 crores  (Fee / annum= Rs. 5,000/-)

III.     NGOs/ Farmers Organizations/ Cooperatives (Fee / annum= Rs. 1,500/-)

| File Description | Document |
|---|---|
| Upload soft copy of the Consultancy Policy | [View Document](#) |
| Paste URL of the consultancy policy document | [View Document](#) |

**3.5.2 Revenue generated from consultancy and corporate training during the last five years (INR in Lakhs).**

**Response:** 127.26

3.5.2.1 **Total amount generated from consultancy and corporate training  year-wise during the last five years (INR in lakhs).**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 24.98 | 5.25 | 35.38 | 18.145 | 43.5 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 3.6 Extension Activities

**3.6.1 Extension activities in the neighbourhood community in terms of impact and  sensitising students to social issues and holistic development during the last five years.**

**Response:**

The Institute give equal importance to research, education and extension. Since its inception at Pusa (Bihar) in 1905, the Institute is actively involved in extension and educate the farmers of the region. The IARI started its extension activities during 1949-50. The concepts of seed village production unit and national demonstration took shape in 1965. Krishi Vigyan Mela and mini-kit demonstration (1972), Integrated Area Development Programmes, Operational Research Projects (1975-76), Lab-to-Land Programme (1979), Integrated Whole Village Agricultural Development Programme (1985), Single Window System, and Farmer to- Farmer Quality Seed Programme (1986), MGMG (2015-16), etc. were initiated by the Institute. The Division of Agricultural Extension has played greater emphasis on training the farmers in package of practices, credit, storage and marketing aspects.

The Division, through its CATAT and ATIC units, imparts training, provide advice and technical information to the extension workers and farmers, and also develops and distributes folders, pamphlets and other extension literature. The Publication Unit of IARI also caters to the needs of technical and extension publications. The Joint Director (Extension) and the Extension Council (EC) monitor and guide the extension programme of the Institute. The Students of the School of Social Studies actively interact with

farmers and other stakeholders during the course work as well as surveys for their research work. The students are taken to the field visit to the satellite villages of the Institute located around Delhi. All the students participate in the annual Krishi Mela organized by the Institute.

Many of the research work carried out by M.Sc. and Ph.D. students of the School of Social Sciences involves social surveys of farmers, rural youth and women. Based on the feedback received, several training programmes are being organized every year to the farmers, rural youth and women.

Some of the achievements are:

• Conceptualization of national demonstration project; system of single window delivery of services; development of seed village and farmer-to-farmer seed exchange system and rural social centre for cooperative societies.

• Identification of stages of need and deliberation in adoption decision process in addition to conventional five stages of awareness, interest, evaluation, trial and adoption.

• Development of fourteen training modules on managerial skills for enhancing effectiveness of extension professionals and organizations.

• Identification of appropriate extension methods, communication system and media mix for credible dissemination of information and technology.

• Development of expert system of extension for strengthening computer-aided information services related to crop management for farmers and other end users.

• Action research on dynamics of gender empowerment; group behaviour and mobilization of farmers and farm women; development and functioning of SHGs.

• Through action research, entrepreneurship development modules were developed for rural youth to enhance the employment and income generation opportunities.

• Validation of indigenous technological knowledge was carried out through farmer participatory on farm experimentation.

• Through conduction of series of training programmes for master trainers, the Division contributed immensely towards capacity building of extension professionals.

• National extension programme for networking and sharing of strengths in agricultural technologies.

| File Description | Document |
|---|---|
| Upload any additional information | [View Document](View Document) |

**3.6.2 Number of awards received by the Institution, its teachers and students from Government /Government recognised bodies in recognition of the extension activities carried out during the last**

**five years**

**Response:** 27

3.6.2.1 **Total number of awards and recognition received for extension activities from Government/ Government recognised bodies year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 4 | 6 | 5 | 12 | 0 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | View Document |

**3.6.3 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years**

**Response:** 21

3.6.3.1 **Number of extension and outreach programs conducted by the institution those through NSS/NCC, Government and Government recognised bodies during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 19 | 2 | 0 | 0 | 0 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | View Document |

**3.6.4 Average percentage of students participating in extension activities listed at 3.6.3 above during the last five years**

**Response:** 12.09

3.6.4.1 **Total number of students participating in extension activities listed at 3.6.3 above year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 270 | 40 | 0 | 0 | 0 |

| File Description | Document |
| --- | --- |
| Institutional data in prescribed format | [View Document](#) |

## 3.7 Collaboration

**3.7.1 Number of Collaborative activities for  research, Faculty exchange, Student exchange/ internship per year**

**Response:** 31.4

3.7.1.1 **Total number of Collaborative activities with other institutions / research establishment / industry for research and  academic development of faculty and students year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
| --- | --- | --- | --- | --- |
| 9 | 11 | 24 | 42 | 71 |

| File Description | Document |
| --- | --- |
| Institutional data in prescribed format | [View Document](#) |
| Copies of collaboration | [View Document](#) |

**3.7.2 Number of functional MoUs with institutions/ industries  in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research  during the last five years.**

**Response:** 343

3.7.2.1 **Number of functional MoUs with institutions/ industries  in India and abroad for internship, on-the-job training, project work, student / faculty exchange and  collaborative research year-wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
| --- | --- | --- | --- | --- |
| 71 | 53 | 125 | 37 | 57 |

| File Description | Document |
| --- | --- |
| Institutional data in prescribed format | [View Document](#) |

# Criterion 4 - Infrastructure and Learning Resources

## 4.1 Physical Facilities

**4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.**

**Response:**

Institute has excellent facilities for teaching and learning. In each Department one class room is equipped with LCD projector, computer, WiFi and interactive board. A few Departments have smart class rooms with Video conferencing facilities. All departments have state of the art laboratories. Institute has World class facilities like Nanaji Deshmukh Phenomics Lab, National Phytotron Facility, Pesticide Referral Laboratory, Soil and Water Analysis Lab, Automatic Weather Station, Satellite Image Analysis Lab, Food Quality Testing Lab.

**National Phytotron Facility:** The National Phytotron Facility is the first of its kind in the country to study the live responses of plants under controlled conditions and the possible impact of climate change and greenhouse gases. It has a self-contained area of 2700 m2, housing 22 growth chambers and 10 greenhouses.

**Pesticide Referral Laboratory**: The Pesticide Referral Laboratory (PRL) is committed to high quality of its testing services complying at all times with ISO/IEC 17025:2005 and to continually improve the effectiveness of the management system.

The Institute realized the importance of diversity of biological forms and their importance in maintaining the ecological balance right from the inception of the Institute when it established

- Herbarium Cryptogamae Indiae Orientalis (HCIO) with more than 6000 specimens
- National Pusa Insect Collection in 1905 which has more than 5 lakh insect specimens.
- Indian Type Culture Collection of Fungi (1936) which has more than 3300 live fungal cultures, a National Collection of Nematodes (1969)
- National Rhizobial Collection (1986)

These collections are national wealth and very useful resources for undertaking taxonomic studies.

**Central Seed Testing Laboratory:** The Seed Testing Laboratory of the Institute has got the status of CSTL under the Ministry of Agriculture and serves as a Referral Laboratory for all the 96 seed testing labs located in different parts of the country. Regular training programs for the personnel of the State Seed Testing Labs are being organized.

**Quality Seed Facility:** A Japan Grant Aid Project was launched at IARI to upgrade the facilities for seed research, processing and storage through infrastructure development, highly sophisticated equipment and state of the art technology in seed science and technology. The National Facility is envisaged to provide medium-term storage for 4.5 tonnes of authentic seed samples of all released varieties (approx. 5000) from the National Agricultural Research System

**Facility for Protective Agriculture:** The Institute also developed a big complex providing state of the art

facility for protected horticulture under Indo- Israeli collaboration in the year 1998. This facility is extremely useful for students and scientists of horticulture and provides a model for efficient agriculture.

| File Description | Document |
|---|---|
| Upload any additional information | View Document |
| Paste link for additional information | View Document |

**4.1.2 The institution has adequate facilities for cultural activities, yoga, games and sports (indoor & outdoor); (gymnasium, yoga centre, auditorium, etc.,)**

**Response:**

The Institute encourages extra- curricular activities that enrich cultural, physical and social life of students. Spacious playgrounds are provided near the student hostels and necessary facilities exist for outdoor games like cricket, football, hockey, volleyball, tennis, badminton and various athletic events. There are facilities also for indoor games like Chess, Carom and Table Tennis in each hostel. There is a Students Sports Fund to which every student subscribes at the beginning of each academic year. Various yoga classes are organized free of cost from time to time.

IARI actively organizes the sports meet where students get to show their talents. Students participate in various sports activities.

The institute has state of art gymnasium ( one is adjacent to Sharad Hostel for students, one in Varsha Hostel for girls, one in faculty club for faculty members, and one in Nehru Experimental Center for Non teaching staff).

Institute has excellent facility for indoor and outdoor games (Football, Cricket, Basketball, Lawn tennis, Volley ball in sports ground infront of Vasant Hostel for students). The sports ground adjascent to Nehru Experimental Center for track and field events) Hostels namely Vasant, Hemant, Varsha and Shishir  have facilities for indoor games.

Regular yoga classes are organised in Vasant Hostel and at Faculty Club.

Institute has four (4) auditorium, the main auditorium is named as Dr BP Pal auditorium is adjacent to Central Office. The auditoriums are also located at Water Technology Center, Nuclear Research Laboratory, Department of Plant Pathology, etc. All the auditoriums are fully airconditioned with projectors and audio-visual facilities.

| File Description | Document |
|---|---|
| Geotagged pictures | View Document |

**4.1.3 Availability of general campus facilities and overall ambience**

**Response:**

Institute has on campus residential facilities for faculty members and staff. IARI has three Guest Houses, The three (3) Guest houses namely, Ganga International Guest House, Dr Rajendra Prasad Farmer's Hostel and Sindhu Scientist Hostel are situated in the campus.

IARI is a fully residential campus for the students. Institute has five hostels for Boys (Hemant, Vasant, Shishir, Grishm and Sharad), one for Girls (Varsha) and one Saraswati Apartment for married students. These are spacious, well furnished hostels. Apart from hygienic foods, hostels provide recreational facilities including TVs, indoor games, book shop, hair dressing saloon etc.

Master of Halls of Residences is the head of the hostel facility in the campus.

Students who are given admission in the hostel are required to join the mess. Hostel residents are expected to observe the rules and regulations prescribed for them as well as all the requirements of corporate life and the social norms that living together demands.

Central store (Kendriya Bhandar), Mother Dairy Booth, Amul Dairy Booth, Safal, Narmada Shopping Center are located in the Campus which cater to the day to day needs of the students, faculty members and staff. Institute is spread over an area of approximately 473  which is full of greenery throughout the year. The greenery and ambience of the campus attracts large number of people from nearby locations for morning and evening walk.

| File Description | Document |
|---|---|
| Paste link for additional information | [View Document](#) |

**4.1.4 Average percentage of expenditure for infrastructure augmentation excluding salary during the last five years (INR in Lakhs)**

**Response:** 24.74

4.1.4.1 **Expenditure for infrastructure augmentation, excluding salary during the last five years (INR in lakhs)**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 4343.7 | 2846.18 | 4770.62 | 4523.17 | 916.43 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 4.2 Library as a Learning Resource

**4.2.1 Library is automated using Integrated Library Management System  (ILMS)  and has digitisation facility**

**Response:**

Prof. M S SWAMINATHAN LIBRARY is one of the largest and the finest agrobiological libraries in South East Asia housing a total of 3.75 lakh plus publications including 1,32,000 books / monographs / bulletins, 2,21,600 journals / reports , 15,160 post graduate theses, 7,683 Hindi books , 28,500 news letters etc. Access of 24 Online Journals available on LAN. The Library has, on its role, 2000 members, viz., students, scientists and technical staff. It also serves about 8,000 visitors every year. The Library functions as the depository of FAO, IDRC and AVRDC publications and also as the National Depository for CGIAR institutes publications. The Library has on its role 2000 member viz. students, scientists and technical staff. It also serves about 2500 visitors every year. The Library functions as the depository of Food and Agricultural Organization (FAO), and Consultant Group of International Agricultural Research (CGIAR) institutes' publications. The library has student facility wing / reading halls having 15 PCs with Wi-Fi connectivity and internet and e-mail facility.

**Acquisition Programme**

**Books**
IARI Library is one of the largest and the finest agro biological libraries in South East Asia housing total of 3,34,128 publications including books / monographs, journals reports, bulletins, post graduate theses and other reference materials etc.

**Serials**
The Library is subscribing 116 Foreign Periodicals , 185 Indian journals and advances annual reviews and procured journals / serials through gifts and exchanges (out of which 30 journals are online), 47 Advances & Annual Reviews, 650 newsletters. Exchange relationship is maintained with 65 institutions globally and nationally by sending 152 annual reports, ICAR journals and society publications.

**Documentation Activities**

**AGRIS project**
IARI Library was declared as an input center for National Agricultural Research Database (NARD) under AGRIS Project. The Library was assigned the job of scanning, articles from 10 most important Indian journals. The input was done in ISO format using AGRIN methodology.

**4.2.2 Institution has access to the following:  1. e-journals 2. e-ShodhSindhu 3. Shodhganga Membership 4. e-books 5. Databases 6. Remote access to e-resources**

**Response:** C. Any 2 of the above

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

**4.2.3 Average annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)**

**Response:** 348.71

4.2.3.1 Annual expenditure for the purchase of books and journals including e-journals year-wise during last five years (INR in Lakhs)

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 1029.36 | 37.33 | 272.93 | 304.31 | 99.64 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

**4.2.4 Percentage per day usage of library by teachers and students ( foot falls and login data for online access)  during the latest completed academic year**

**Response:** 98.14

4.2.4.1 **Number of teachers and students using library per day over last one year**

Response: 948

| File Description | Document |
|---|---|
| Details of library usage by teachers and students (Library accession register, online accession details to be provided as supporting documents) | [View Document](#) |
| Any additional information | [View Document](#) |

## 4.3 IT Infrastructure

**4.3.1 Percentage of classrooms and seminar halls with ICT - enabled facilities  such as  LCD, smart board, Wi-Fi/LAN, audio video recording facilities. (Data for the latest completed academic year)**

**Response:** 96

4.3.1.1 **Number of classrooms and seminar halls with ICT facilities**

Response: 48

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 4.3.2 Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility

**Response:**

- AKMU (Agricultural Knowledge Management Unit) is responsible for all the networking activities provided to all the buildings, hostels and residences at IARI by 25 km fibre optic network connectivity spread across the campus.
- ICAR-IARI, New Delhi has Unified Thread Management (UTM) firewall equipment alongwith its licences from Sophos (Model XG 430 appliances) for providing information security functions, such as packet filtering, proxy, intrusion detection and prevention systems, protection against malware, application control, etc., to IARI's LAN and servers at IARI Data Center.

- As far as LAN connectivity is concerned IARI has a huge Campus area network throughout the campus. Connectivity to the campus is provided by optical fiber cables (25 kms fibre cable) laid across the campus covering all Divisions, Hostels and Guest Houses. All the hostels are provided with wi-fi connectivity through wavion WBS-2400 devices.
- Facilities: LAN is spread throughout the campus covering all the divisions, units, centres, hostels of IARI, Web Server, Mail Server, Intranet Server, DNS Servers, DHCP Server, ERL Server, Egranth Servers (KrishiKoshDigital , repository), etc.,

- Internet services are being provided to scientists / researchers / students and other officials of the Institute. Internet services in IARI are being provided by AKMU. We have 10 Gbps NKN connectivity. Our data Centre comprises of 2 core switches (layer 3), Sophos firewall and other servers.

- Several video conferencing units are functional at IARI and are being used for the smart class purpose.

- ASRB Online Examination Hall is fully functional. The AKMU provides support and maintain the Online Examination Hall of ASRB Online NET exam. The infrastructure consists of 120 computers connected with LAN and high speed Internet connectivity along with power backup systems. It also has the facility to record the entire examination session. Separate place is provided for the registration process and the hall is having complete security system.
- Data-Center hosts Web-services like IARI web-portal, Intranet services, DSSs, Digital Repository for whole NARS, Digital Library for NARES, Constant power supply has been given through two 20 KVA UPS backed up by a auto start generator. HP half blade servers (15 no.) are installed in the C7000 series chasis and hosting various activities.

- For complete Local Area Network and Web services, Comprehensive Annual Maintenance Rate Contract of IARI are in place, the expenditure are being met from Institute Budget.

**Institutional Database and website**

- IARI has designed its own website and is hosting in-house at data centre. The site is developed using Joomla as the content management system. Joomla is a free and open-source content management system (CMS) for publishing web content.

- Krishikosh a Digital Repository of NARES (with Open Access Mandate of ICAR) :KrishiKosh is a digital repository which captures, preserves, archives and provide policy based access to the intellectual output of Indian NARES. A customized digital repository platform for users of NARES Institutions, where they can upload and manage their own contents for compliance to open access policy of ICAR. Currently this digital repository have more than 1,95,000 items which includes 1,60,000 theses from various NARES organization.

**4.3.3 Student - Computer ratio (Data for the latest completed academic year)**

**Response:** 0:1

**4.3.4 Available bandwidth of internet connection in the Institution (Leased line)**

**Response:** C. 250 MBPS - 500 MBPS

**4.3.5 Institution has the following Facilities for e-content development**

1. **Media centre**
2. **Audio visual centre**
3. **Lecture Capturing System(LCS)**
4. **Mixing equipments and softwares for editing**

**Response:** A. All of the above

| File Description | Document |
|---|---|
| Upload any additional information | View Document |
| Institutional data in prescribed format | View Document |

## 4.4 Maintenance of Campus Infrastructure

**4.4.1 Average percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the last five years**

**Response:** 46.02

4.4.1.1 **Expenditure incurred on maintenance of infrastructure (physical facilities and academic support facilities) excluding salary component year-wise during the last five years (INR in lakhs)**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 6773.72 | 2844.3 | 7493.4 | 7989.15 | 5703 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | [View Document](#) |

**4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.**

**Response:**

The institute has well established system and procedure for maintaining and utilizing physical, academic and support facilities-libraries, laboratory, sports complex, computers, class rooms. Repair and maintenance of official, residential and hostel is done the Central Public Work department. In addition to CPW, Maintenance and Engineering unit (MEU Unit) of the Institute coordinates with the CPWD and also undertakes the repair and maintenance if it is urgent. Annual maintenance contract is done for maintaining the laboratory and IT equipments. Repair and maintenance of sports complex is done by CPWD. Post graduate students union (PGSSU) with support of Master of Halls (MoHR) office runs and operates the sports facilities. The institute library has a well established procedure for use by the faculty and students. Head library services are responsible for day to day maintenance of the library. The institute IT cell is managed by team of IT experts lead by Incharge AKMU (Agri Knowledge Management Unit).

# Criterion 5 - Student Support and Progression

## 5.1 Student Support

**5.1.1 Average percentage of students benefited by scholarships and freeships provided by the institution, Government and non-government agencies (NGOs) during the last five years (other than the students receiving scholarships under the government schemes for reserved categories).**

**Response:** 100.12

5.1.1.1 **Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 519 | 476 | 437 | 341 | 339 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | [View Document](#) |
| Link for additional information | [View Document](#) |

**5.1.2 Average percentage of students benefited by career counseling and guidance for competitive examinations as offered by the Institution during the last five years.**

**Response:** 19.93

5.1.2.1 **Number of students benefitted by guidance for competitive examinations and career counselling offered by the institution  year wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 47 | 78 | 69 | 55 | 143 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | [View Document](#) |
| Any additional information | [View Document](#) |

**5.1.3 Following Capacity development and skills enhancement activities are organised for improving students capability  1. Soft skills  2. Language and communication skills  3. Life skills (Yoga, physical**

**fitness, health and hygiene) 4. Awareness of trends in technology**

**Response:** A. All of the above

| File Description | Document |
|---|---|
| Institutional data in prescribed format | View Document |
| Link to Institutional website | View Document |
| Link for additional information | View Document |

**5.1.4 The institution adopts the following for redressal of student grievances including sexual harassment and ragging cases 1. Implementation of guidelines of statutory/regulatory bodies 2. Organisation wide awareness and undertakings on policies with zero tolerance 3. Mechanisms for submission of online/offline students' grievances 4. Timely redressal of the grievances through appropriate committees**

**Response:** A. All of the above

| File Description | Document |
|---|---|
| Upload any additional information | View Document |

## 5.2 Student Progression

**5.2.1 Average percentage of students qualifying in state/national/ international level examinations during the last five years (eg: IIT-JAM/CLAT/ NET/SLET/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State government examinations, etc.)**

**Response:** 27.92

5.2.1.1 **Number of students qualifying in state/ national/ international level examinations (eg: IIT/JAM/ NET/ SLET/ GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/ State government examinations, *etc.*)) year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 213 | 114 | 147 | 65 | 74 |

5.2.1.2 **Number of students appearing in state/ national/ international level examinations (eg: IIT/JAM/ NET / SLET/ GATE/ GMAT/CAT,GRE/ TOEFL/ Civil Services/ State government examinations) year-wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 518 | 476 | 437 | 341 | 339 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |
| Any additional information | [View Document](#) |

**5.2.2 Average percentage of placement of outgoing students during the last five years**

**Response:** 29.14

5.2.2.1 **Number of outgoing students placed year - wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 62 | 54 | 71 | 65 | 109 |

| File Description | Document |
|---|---|
| Upload any additional information | [View Document](#) |
| Institutional data in prescribed format | [View Document](#) |
| Link for additional information | [View Document](#) |

**5.2.3 Percentage of student progression to higher education (previous graduating batch).**

**Response:** 57.89

5.2.3.1 **Number of outgoing student progressing to higher education.**

Response: 165

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 5.3 Student Participation and Activities

**5.3.1 Number of awards / medals won by students for outstanding performance in sports / cultural activities at inter-university / state / national / international events (award for a team event should be counted as one) during the last five years.**

**Response:** 128

5.3.1.1 **Number of awards/medals won by students for outstanding performance in sports / cultural**

**activities at inter-university / state / national / international events (award for a team event should be counted as one) year - wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---------|---------|---------|---------|---------|
| 26 | 27 | 41 | 24 | 10 |

| File Description | Document |
|------------------|----------|
| Institutional data in prescribed format | [View Document](#) |
| e-copies of award letters and certificates | [View Document](#) |

**5.3.2 Presence of Student Council and its activities for institutional development and student welfare.**

**Response:**

The IARI has an active Students' Union known as Post Graduate School Students' Union (PGSSU), who puts forth major concerns of the students and issues related to them at different fora for their resolution and implementation. The
Executive Committee of PGSSU comprises of following elected members: (i) President (ii) Vice President (Girl) (iii) General Secretary (iv) Games and Sports Secretary (v) Finance Secretary (vi) Social Cultural Secretary (vii) The
students representative to the Academic Council (viii) Five class representatives (ix) Literary secretary (Girl) (x) Alumni secretary (xi) Career Council and Placement Secretary. The Board of Studies (BOS) in each Discipline
also has a students' representative, who actively takes part in the decision making in the matters pertaining to the various academic activities of that particular Discipline. Two student representatives are also appointed as member of the Academic Council in the following manner: 1. The President, PGSSU is an ex-officio student representative in the Academic Council. 2. The second student representative is elected every year by secret ballot by the members of
the PGSSU through the same election process adopted for electing the Executive of the Post Graduate School Students' Union. 3. The tenure of the student representative is one year.

Furthermore, the President PGSSU elected students' representative are also members of following three Standing Committees: • Standing Committee on Scholarships, Financial Assistance and Academic Progress • Standing Committee on Students Problems and Discipline, Welfare Board and Residences • Standing Committee on Courses, Curricula and academic affairs Students Welfare Fund is maintained in the PG School, IARI. The student welfare fund is granted advance loans to the needy students for special purposes. This fund is administered by a committee known as Students Welfare Committee. The President, PGSSU and Finance Secretary, PGSSU are members in this committee. Furthermore, the students are also kept members in the committees constituted for prevention of sexual harassment and ragging at work place and for promotion of gender sensitization. The students are also members in the various committees constituted for successful organization of various annual events at the institute such as convocation week programme, various award lectures, teachers day celebration, international women's day celebration, Girrl child day celebration, Krishi Vigyan Mela, etc.

| File Description | Document |
|---|---|
| Upload any additional information | [View Document](#) |

**5.3.3 Average number of sports and cultural events / competitions organised by the institution per year**

**Response:** 3.2

5.3.3.1 **Number of sports and cultural events / competitions organised by the institution year - wise during the last five years.**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 1 | 1 | 3 | 7 | 4 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

## 5.4 Alumni Engagement

**5.4.1 The Alumni Association / Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services.**

**Response:**

IARI has a registered Alumni Association, which has been created with a primary aim of networking its alumni and developing a sense of community amongst them. Alumni are one of the main stakeholders of the University as they contribute immensely to the functioning and development of the university in multiple dimensions. The institute is utilising the services of Alumni in various committees like Institute Research Council, Research Advisory Council, Quinquennial Review Team, etc. The Alumni are also being encouraged to join as Adjunct Faculty to strengthen teaching and research activities. The Alumni are also welcome to serve IARI as National Professor, Eminent Scientist, Eminent Professor, etc. The Alumni also form pool of resources for evaluation of thesis, external examiners of students'theses and for conducting Qualifying Examination. The Alumni serving in various ICAR institutes, SAUs and Private Firms are welcome to take up collaborative or joint research projects. Besides, they are providing mentoring services to the current students of the institute. Through their rich experience they are helping the students to understand the requirements of various industries and educating them to plan and shape their career in right direction. Students also get opportunity to work in the labs of some of the alumni to gain research experience in cutting edge technologies. They are also imparting them first-hand knowledge about the various steps and procedures needed for setting up their own start-ups. During the convocation week celebration of the institute, alumni are invited for the convocation week celebration and they share their memories and experiences during convocation dinner. This helps them to rekindle their old

relationships.

**5.4.2 Alumni contribution during the last five years (INR in Lakhs)**

**Response:** E. <5 Lakhs

| File Description | Document |
|---|---|
| Any additional information | [View Document](View Document) |

# Criterion 6 - Governance, Leadership and Management

## 6.1 Institutional Vision and Leadership

**6.1.1 The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance.**

**Response:**

The Institution has a clearly stated mission which is to provide visionary leadership for "Science-led sustainable and globally competitive agriculture for food, nutrition and livelihood security, through exploring new frontiers of science, developing human resources and policy guidelines for creating a vibrant, responsive and resilient agriculture". In order to accomplish this mission, the Institute has identified the following to fulfil its mandate to make Indian agriculture locally, regionally and globally competitive
(www.iari.res.in):
1. To conduct basic and strategic research with a view to understand the processes, in all their complexity, and to undertake need-based research, leading to crop improvement and sustained agricultural productivity in harmony with the environment.
2. To serve as a centre for academic excellence in the area of post-graduate education and human resources development in agricultural sciences.
3. To provide national leadership in agricultural research, extension, and technology assessment and transfer by developing new concepts and approaches and serving as a national referral point for quality and standards.
4. To develop information systems, add value to information and serve as a national agricultural library and database.

| File Description | Document |
|---|---|
| Link for additional information | [View Document](#) |

**6.1.2 The effective leadership is reflected in various institutional practices such as decentralization and participative management.**

**Response:**

The leadership of the Institute is unique in being decentralized and participatory at all levels of functioning. The administrative and technical head of IARI is its Director, who is supported ably guided by The Board of Management with the Director as its Chairman, served by four Councils, namely, the Research Advisory Council, Academic Council, Extension Council and Executive Council, which provide the overall management direction. The Director is assisted by four Joint Directors i.e., Joint Director (Research), Joint Director (Education) & Dean, Joint Director (Extension) and Joint Director (Administration). The Joint Director (Administration) looks after the day- to-day administrative work. The Comptroller has the overall charge of the audit and accounts matters. Presently, the research, education, and extension activities of the Institute are carried out through a network of 20 discipline-based divisions, 2 multidisciplinary centres, 8 regional stations, 2 off-season nurseries, 10 centres of AICRP and a common set of service units.

The leadership is actively involved in the above-mentioned aspects through various decision-making bodies of the Institute, formal and informal meetings and discussions with the faculty and students and regular visits to the fields and labs of various disciplines. In ensuring the organization's management system development in the following key activities:

? Implementation and continuous improvement
? Interaction with its stakeholders
? Reinforcing a culture of excellence

As a formal institutionalized system, the institute has the bodies like Academic Council, Executive Council and General Council which have representatives from the profession and industry, alumni, MHRD, professional bodies, faculty and students. Many of the activities of the Institute are shared by the management with the faculty for information as well as comments. Meetings of the Heads of the Departments and Professors are held regularly. Each Department also regularly conducts faculty meetings. Board of Studies (BOS) meetings are conducted regularly at least once in a trimester. As explained earlier, selected faculties and one student representative are members of BOS. In general, the management is easily available to faculty and students to discuss problems, issues or any other aspects as and when required.

| File Description | Document |
| --- | --- |
| Link for Additional Information | [View Document](#) |

## 6.2 Strategy Development and Deployment

**6.2.1 The institutional Strategic plan is effectively deployed.**

**Response:**

The institute follows a professional and dynamic approach to managing the various academicand administrative activities through both decentralization and participativemanagement. The Director of the institute gives adequate budgetary allocation of funds to the Joint Directors and Heads of Divisions (HODs) along with thegenerous freedom and flexibility for their utilization to ensure full,independent and effective discharge of their responsibilities and functions.The HODs are empowered to sanction indents amounting to Rs 1 lakh. Monthlymeetings of the HODs are conducted by the Director to review the progress madeand to chart out the future course of action. Similarly, at the divisionallevel a Divisional Budget and Research Committee (DBRC) is constituted byincluding members from different categories of scientists as well as anAdministrative Officer. The Chairman of DBRC is the Head of the Division. The majorissues pertaining to equitable and judicious use of allocated funds as well asstrategies for enhancing the impact of the ongoing research activities in thedivision, new programmes to be undertaken and ways to secure additional fundsfrom external sources are thoroughly discussed in the regular meetings of theDBRC and recommendations sent to the Director, IARI for further approval. Foran effective efficient implementation of the academic vision of the instituteand for seamless discharge of the Institute's mandate in this regard, Board ofStudies (BOS) is constituted in each Division with members from differentstrata of scientists. The Chairperson of BOS is the Professor of the divisionand it also includes one Students' Representative. All the major decisions formaintaining, enlivening and improving the teaching standards in the divisionare taken by the BOS under the guidance of Director and Dean of the institute.The Professor of

the Division is given full freedom to effectively utilizefunds allocated for strengthening PG activities in the division as per the GFR.The four standing Committees, IQAC under the guidance of competent authoritiesare involved in defining policies procedures, framing guidelines and rulesregulations pertaining to admission, examination, discipline, grievance,support services, finance etc. With the online system, in place, a smooth transitioning at all levels with quicker response times is ensured.

| File Description | Document |
|---|---|
| Strategic Plan and deployment documents on the website | [View Document](#) |

## 6.2.2 The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules and procedures, etc.

**Response:**

The Institute has a strong in-built mechanism to monitor and keep effective and efficient all its policies related to administration, service rules and official processing. The Academic Council, being the Apex Statutory Body, along with its Standing Committees and Board ofStudies in respective disciplines periodically reviews academic progress, while research and academicprogress is reviewed by Institute Research Council (IRC) and Research Advisory Committee (RAC).Periodic review is conducted three times in a year by Academic Council, once in a year by RAC, IRC andExtension Council.The recommendations of the RAC and /academic council are put up to ICAR for approval and thesuggestions are used for refinement of the research projects. However, the institute has set up several empowered Committees to monitor and evaluate the post graduate courses and thus suggest correctivemeasures, wherever necessary.NAAC cell has also set up to digitize the information and provide a workflow for regular functioning of institutional activities.IARI encourages all its academic departments to function independently. However, to ensureaccountability, some of the critical decisions on academics are made through Dean and Director to ensurecoordination and accountability.

The institute focuses towards enhancing the skill sets of its personnel and making them aware and updating their knowledge regarding the service rules from time to time through workshops and training modules-both physical and e- learning based. The Institute also proposesto develop a band of scientists trained in international agriculture and also to make them familiar withIPR/PBR regimes, encouraging participation in various international conventions and network building so that they become a majorresource for international agriculture development. Technical staff are trained regularly for skillenhancement. The administrativestaff were also given need-based trainings on e- administration.

| File Description | Document |
|---|---|
| Link to Organogram of the University webpage | [View Document](#) |

## 6.2.3 Institution Implements e-governance covering following areas of operation

1. Administration
2. Finance and Accounts
3. Student Admission and Support
4. Examination

**Response:** A. All of the above

| File Description | Document |
|---|---|
| Screen shots of user interfaces | [View Document](#) |
| Details of implementation of e-governance in areas of operation, Administration etc (Data Template) | [View Document](#) |

## 6.3 Faculty Empowerment Strategies

**6.3.1 The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff .**

**Response:**

The Institute has a well established, transparent and quantitative performance appraisal system. The performance are reviewed annually in the form of Annual Performance Assessment Report (APAR) at three levels i.e., officer reported upon, reporting officer and reviewing officer. Research activities are reviewed through Institute Research Council (IRC) and Research Advisory Committee (RAC). Time bound promotional promotions are ensured through two tracks viz., direct recruitment at every level of the career and Career Advancement Schemes (CAS) at Departmental level. Encouraging the teachers to participate in training programmes, seminars, conferences, sports, recreational activities, etc., takes care of their professional as well as welfare spheres. The Institute has sports grounds, recreational clubs, Gymnasia, indoor and outdoor sports facilities such as badminton, tennis, basket ball and volley ball courts.

The Institute facilitates this by empowering and enhancing the capabilities of its human resource at all levels, through professional and non-technical trainings. Faculty members can undergo 6-month training in any premier national institute of their choice. The faculty of the Institute also avail various fellowships to undergo short-term and long-term international trainings.

Additionally, the Faculty is involved in various committees of the Institute including estate management, hostels and students' activities. In each division, there is a nominated Professor who is responsible for all the student-related issues in the division. Each Professor is assisted by a number of course leaders. The course leaders are entrusted with the responsibility for facilitating the particular course related arrangements. The academic activities of each discipline are monitored and guided by Board of Studies where Professor is Chairperson, and selected faculties and one student representative are members. Similarly, each discipline has a Divisional Budget and Research Committee (DBRC) with Head of the Division as Chairperson, and some selected Faculties as members. DBRC helps the Head of the Division in research and budget management of the Division. Principal Investigators of various externally funded projects are given full autonomy in their project management (recruitment of project staff procurement, etc). Thus, a large fraction of the faculties are involved in various decision making processes and thus enabling them to develop leadership skills. For the non- teaching staff, such as Technical and administrative staff, they are also trained regularly for skill enhancement, given need-based trainings on e-

administration.

| File Description | Document |
| --- | --- |
| Any additional information | View Document |

**6.3.2 Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years.**

**Response:** 14.54

6.3.2.1 **Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies year wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
| --- | --- | --- | --- | --- |
| 44 | 53 | 157 | 60 | 37 |

| File Description | Document |
| --- | --- |
| Details of teachers provided with financial support to attend conferences, workshops etc. during the last five years (Data Template) | View Document |

**6.3.3 Average number of professional development / administrative training  Programmes organized by the institution for teaching and non-teaching staff during the last five years.**

**Response:** 29.8

6.3.3.1 **Total number of professional development /administrative training Programmes organized by the institution for teaching and non teaching staff year-wise during the last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
| --- | --- | --- | --- | --- |
| 15 | 10 | 54 | 25 | 45 |

| File Description | Document |
|---|---|
| Details of professional development / administrative training Programmes organized by the University for teaching and non teaching staff (Data Template) | [View Document](#) |
| Any additional information | [View Document](#) |

**6.3.4 Average percentage of teachers undergoing online/ face-to-face  Faculty Development Programmes (FDP)during the last five years (Professional Development Programmes, Orientation / Induction Programmes, Refresher Course, Short Term Course ).**

**Response:** 6.39

6.3.4.1 **Total number of  teachers attending professional development Programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes year wise during last five years**

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 30 | 51 | 40 | 11 | 20 |

| File Description | Document |
|---|---|
| Details of teachers attending professional development Programmes during the last five years (Data Template) | [View Document](#) |

## 6.4 Financial Management and Resource Mobilization

**6.4.1 Institutional strategies for mobilisation of funds and the optimal utilisation of resources**

**Response:**

The Institute is placed under the Crop Science subject matter division, which  is a constituent unit of ICAR. The Institute is fully funded by both Plan and Non-Plan grant of Government of India. Additionally, the faculty are encouraged to apply for and also bring large number of external funded projects, in which 5-15% of recurring budget is given as Institutional charges. Further, substantial income is also generated through its revenue resources especially through Professional Service fee and income through commercialization of technology of intellectual property management. The Council also sets the target of resource generation/revenue receipts to Institute/Deemed University every year on the basis of its evaluation of Institute's resources base and potential. Apart from generation of revenue receipts, the Institute/Deemed University also generates "Surplus Fund" through Professional Service Fee and income from intellectual property management and commercialization of Transfer of Technology.

| File Description | Document |
|---|---|
| Link for Additional Information | [View Document](#) |

**6.4.2 Funds / Grants received from government bodies during the last five years for development and maintenance of infrastructure (not covered under Criteria III and V ) (INR in Lakhs).**

**Response:** 377321.64

6.4.2.1 *Total Funds / Grants received from government bodies for development and maintenance of infrastructure (not covered under Criteria III and V) year wise during the last five years (INR in Lakhs).*

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 87268.48 | 68440.18 | 76871.66 | 79491.06 | 65250.26 |

| File Description | Document |
|---|---|
| Details of Funds / Grants received from government bodies during the last five years (Data Template) | [View Document](#) |

**6.4.3 Funds / Grants received from non-government bodies, individuals, philanthropists during the last five years (not covered in Criterion III and V) (INR in Lakhs)**

**Response:** 742.45

6.4.3.1 Total Grants received from non-government bodies, individuals, Philanthropers year wise during the last five years (INR in Lakhs)

| 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 |
|---|---|---|---|---|
| 80.1 | 84.03 | 297.27 | 164.41 | 116.64 |

| File Description | Document |
|---|---|
| Institutional data in prescribed format | [View Document](#) |

**6.4.4 Institution conducts internal and external financial audits regularly**

**Response:**

The Institute/Deemed university has sound mechanism of Three Tier Audit viz. External Audit through the

Office of Director General of Audit, Central Expenditure (C&AG), Internal Inspection through designated CA firm of ICAR headquarter and Internal Audit through Internal Audit Section of Finance Wing of IARI. The Annual Accounts of the Institute are prepared by the Finance Wing of the Institute and Office of DGACE each year audits and the Accounts of Institute. The audit objections are meticulously settled by the concerned Divisions and Sections. Comptroller of Institute/Deemed University liases the external audit with the concerned Divisions and Sections of the Institute/Deemed University. There is a sound mechanism of settlement of Audit Paras through Audit Review Committee of Council. The audited Balance Sheet, Income and Expenditure statements and Receipt and Payment accounts of the last four years have been submitted to ICAR headquarters & the same have been accepted

The Institution conducts both internal and external audits on the financial transactions every year to ensure financial compliance. Internal audit is conducted half yearly by the internal financial committee of the institution. The committee thoroughly verifies the income and expenditure details and the compliance report of internal audit is submitted to the management of the institution.

• External audit is conducted once every year by an external agency.

• External Audit is conducted by the C A. G. Office as per its Audit calendar.

• Internal Audit of the institute is conducted by the ICAR headquarter on yearly basis.

• Besides, the physical verification of the stores and divisional libraries is conducted in each division by an in-house committee constituted by HOD for the aforesaid purpose.

| File Description | Document |
|---|---|
| Link for Additional Information | [View Document](#) |

## 6.5 Internal Quality Assurance System

**6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals.**

**Response:**

Internal Quality Assurance System is in place in the Institute at various levels and is an ongoing and continual process. Academic audit of the Institute is a continuous process where the performances of the divisions are discussed in the meetings of the Institute Research Council and Research Advisory Committee. During the convocation week, experts are called to evaluate the professors' presentations on faculty and student achievements. At the faculty level, there are meetings of the Board of Studies represented by all the Departments. Students' feedback is also considered and evaluated towards improvement in teaching and course content modulation. Therefore, there are sufficient checks available for academic evaluation of the operations of the divisions. Suitable measures/actions are taken by the Institute to implement the recommendations given by the experts at all levels. However, the institute is contemplating to constitute an empowered cell to monitor and evaluate the post graduate courses and thus

suggest corrective measures, wherever necessary.

Continuous and periodic review of academic progress, monitoring of progress of the teaching-learning process is undertaken by the Academic Council, being the Apex Statutory Body, along with its Standing Committees and Board of Studies in respective disciplines. Research and academic progresses are reviewed by Institute Research Council (IRC) and Research Advisory Committee (RAC), through Prioritization, Monitoring and Evaluation Cell (PME Cell) which looks after the responsibilities of coordinating and monitoring of research activities of the Institute including annual presentation of scientific work by the concerned scientist before the IRC/RAC. The recommendations of the Research Advisory Committee (RAC) are put up to ICAR for approval and the suggestions are used for refinement of the research projects. An outside expert in the field of Agricultural Research chairs the presentations during Research Advisory Committee (RAC) meeting.

Periodic review is conducted three times in a year by Academic Council, once in a year by RAC, IRC and Extension Council.

| File Description | Document |
|---|---|
| Link for Additional Information | [View Document](#) |

**6.5.2 Institution has adopted the following for Quality assurance 1. Academic Administrative Audit (AAA) and follow up action taken 2.Confernces, Seminars, Workshops on quality conducted 3. Collaborative quality initiatives with other institution(s) 4.Orientation programme on quality issues for teachers and students 5. Participation in NIRF 6.Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA).**

**Response:** A. Any 5 or more of the above

| File Description | Document |
|---|---|
| Upload details of Quality assurance initiatives of the institution (Data Template) | [View Document](#) |
| Link for Additional Information | [View Document](#) |

**6.5.3 Incremental improvements made for the preceding five years with regard to quality (in case of first cycle), Post accreditation quality initiatives (second and subsequent cycles).**

**Response:**

The recommendations of the RAC and /academic council are regularly evaluated by ICAR towards their approval and the suggestions are used for refinement of the research projects.

Some of the major improvements made include:

• The courses have been revised following the 5th Deans Committee Report BSMA (Broad Subject Matter

Area) guidelines and new courses added, some revised, while some aspects merged to make learning more comprehensive and updated

• The outreach programme has been strengthened by recognising more institutes as partners in academic activities, including teaching, inducting faculty as Research Guides for guidance of MSc/PhD students

• New courses have been added to broaden the knowledge of students with a view to inculcate soft skills

• The students thesis research is better aligned with the research programme of Divisions and complementary to research projects of faculty towards better quality of research towards attaining Sustainable Developmental Goals (SDGs) and outputs in the form of technologies/patents etc.

| File Description | Document |
|---|---|
| Link for Additional Information | [View Document](#) |

# Criterion 7 - Institutional Values and Best Practices

## 7.1 Institutional Values and Social Responsibilities

**7.1.1 Measures initiated by the Institution for the promotion of gender equity during the last five years.**

**Response:**

The institute has taken various measures for gender equity and sensitization and other co-curricular activities, and facilities for women in campus. The institute has 24 hours security for safety of women and others in the campus, and also there is a women's cell which looks after the safety of the women employee against sexual harassment. The institute has dedicated common rooms for girl students. There are three day care centers namely Nehru Experimental Center, Udyan, Blossom, Ankur run voluntarily by the residents and supported by the institute for providing pre-school elementary education as well as day care for the children of the employee. The institute has provided various training to female as well as male participants. For the last five years, the institute has provided training to 94% female (282) and 6% male (17) for preservation of seasonal fruits and vegetables, 49% female (1350) and 51% male (1400) exposure visit of general public to Institute's winter rose show, 65% female (26) and 35% male (14) for improved agricultural technologies for higher income of the farmers of north Tripura, 80% female and 20% male to improved horticultural technologies of sub-tropical fruits, and 100% female each in value addition (212), nutria-farms (138), drudgery reduction (27), health benefits and processing of soybean (138), nutrition for lactating women (18), grading, packing and post-harvest management (20), income generation activities for empowerment, minimization of nutrient loss in processing (80), food processing and preservation (40), and KrishiVistar activities (26).

| File Description | Document |
|---|---|
| Specific facilities provided for women in terms of: a.Safety and security b. Counselling c. Common Rooms d. Day care center for young children e. Any other relevant information | [View Document](#) |
| Annual gender sensitization action plan | [View Document](#) |

**7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures**

1. **Solar energy**
2. **Biogas plant**
3. **Wheeling to the Grid**
4. **Sensor-based energy conservation**
5. **Use of LED bulbs/ power efficient equipment**

**Response:** B. 3 of the above

| File Description | Document |
|---|---|
| Geotagged Photographs | View Document |
| Any other relevant information | View Document |

**7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)**

- **Solid waste management**
- **Liquid waste management**
- **Biomedical waste management**
- **E-waste  management**
- **Waste recycling system**
- **Hazardous chemicals and radioactive waste management**

**Response:**

The Institute has well-knit protocols/ procedures for the collection and disposal of different kinds of wastes (chemical, biological, radioactive, universal and recyclable) from the laboratories, hostels and research farms. Institute Radiological Safely Office which  operates takes care of the procurement of radioisotopes and biomolecules for research, collection of wastes on regular basis and its safe disposal in the designated protected area. The pesticide contaminated toxic waste and other related contaminated wastes generated from the laboratories are disposed-off on regular basis through safe disposal agencies. The Institute has installed bio-incinerator to manage hazardous laboratory waste. The facility with a capacity of 50 Kg/hour was created with IARI plan fund of Rs 18 lakh. The institute has got IBSC (Institute Bio-safety Committee) to scrutinize and approve applications related to research on GMOs including genome editing as directed by DBT, Ministry of Science and Technology, Government of India. The institute has designated solid waste disposal points located in residential as well as in various Divisions and offices where the solid wastes are collected and disposed off for final collection by Municipal Corporation of Delhi.

| File Description | Document |
|---|---|
| Relevant documents like agreements/MoUs with Government and other approved agencies | View Document |
| Geotagged photographs of the facilities | View Document |
| Any other relevant information | View Document |

**7.1.4 Water conservation facilities available in the Institution:**

1. **Rain water harvesting**
2. **Borewell /Open well recharge**
3. **Construction of tanks and bunds**

    **4. Waste water recycling**
    **5. Maintenance of water bodies and distribution system in the campus**

**Response:** A. Any 4 or all of the above

| File Description | Document |
| --- | --- |
| Geotagged photographs / videos of the facilities | [View Document](#) |
| Any other relevant information | [View Document](#) |

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**7.1.5 Green campus initiatives include:**

    **1. Restricted entry of automobiles**
    **2. Use of Bicycles/ Battery powered vehicles**
    **3. Pedestrian Friendly  pathways**
    **4. Ban on use of Plastic**
    **5. landscaping with trees and plants**

**Response:** A. Any 4 or All of the above

| File Description | Document |
| --- | --- |
| Various policy documents / decisions circulated for implementation | [View Document](#) |
| Geotagged photos / videos of the facilities | [View Document](#) |
| Any other relevant documents | [View Document](#) |

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**7.1.6 Quality audits on environment and energy are regularly undertaken by the Institution and any awards received for such green campus initiatives:**

    **1. Green audit**
    **2. Energy audit**
    **3. Environment audit**
    **4. Clean and green campus recognitions / awards**
    **5. Beyond the campus environmental promotion activities**

**Response:** C. 2 of the above

| File Description | Document |
| --- | --- |
| Reports on environment and energy audits submitted by the auditing agency | [View Document](#) |
| Certification by the auditing agency | [View Document](#) |
| Any other relevant information | [View Document](#) |

**7.1.7 The Institution has disabled-friendly, barrier free environment**

1. Built environment with ramps/lifts for easy access to classrooms.
2. Divyangjan friendly washrooms
3. Signage including tactile path, lights, display boards and signposts
4. Assistive technology and facilities for Divyangjan accessible website, screen-reading software, mechanized equipment
5. Provision for enquiry and information : Human assistance, reader, scribe, soft copies of reading material, screen reading

**Response:** A. Any 4 or all of the above

| File Description | Document |
|---|---|
| Policy documents and information brochures on the support to be provided | [View Document](#) |
| Geotagged photographs / videos of the facilities | [View Document](#) |
| Any other relevant information | [View Document](#) |

**7.1.8 Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).**

**Response:**

IARI campus represents a true example of 'Unity in Diversity'. It embodies faculty and students of almost all states of India, from different faith/religion, different cultural and food habits, and having different mother tongue. All coexists in absolute peaceful, friendly relations with harmony since the inception of the institute more than a century ago. Presently nine messes are operating in various hostels which cater the food requirements to the students of different food habits. The festivals like Diwali, Durga Puja, Ganesh Chaturthi, Saraswati Puja, Moharram, Eid are celebrated by the staff and the students having different faiths with great enthusiasm. Charitable work like free Covid-19 vaccination and testing camp, blanket distribution to economically weaker people, are also conducted by in the Nehru Experimental Centre located inside the campus by various socio-cultural organization existed in IARI campus on voluntary basis. The socio-cultural organization also provide education to the children of the labours working in different construction work of IARI.

| File Description | Document |
|---|---|
| Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution) | [View Document](#) |

**7.1.9 Sensitization of students and employees of the Institution to the constitutional obligations:**

**values, rights, duties and responsibilities of citizens (within 500 words).**

**Response:**

7718 people participated in Vigilience Awareness Week, 581 students participated in Agricultural research, research ethics, rural development course (PGS505), 3107 students participated in Adoption of Anti-Plagiarism Policy to maintain academic integrity,1434 documents in the form of thesis and manuscripts prior to submission were subjected to web based software 'Turnitin' and similarity reports, 7698 students participated in Anti-Ragging/Grievance redressal mechanism followed by PG School, IARI, New Delhi which has Standing Committee on Students Problems Discipline,Welfare, Board and Residences which considers Complaints/Grievance of students, if any.

The students are sensitized about the basic issues related to ethics in agricultural research, rural development, and environmental protection by various courses offered by the PG School, IARI. They are motivated towards practicing and promoting ethics in research and developmental endeavors through the course "PGS 505: Agricultural Research, Research Ethics and Rural Development Programmes (1L+0P)" offered. They are also educated regarding the law and policy for environmental protection and related ethical issues to protect the environment through the course "ES 611: Introduction to Environmental Law and Policy (2L+0P)".

Beside that the institute organizes "Mera Gaon Mera Gaurav (MGMG)" program for enhancing farmers' knowledge about latest technology, and dissemination of latest technology to farmers field.

"IARI post office linkage model" for enhanced outreach of frontline extension system, coverage of remotely located farmers through IARI improved technologies.

"ARYA scheme" for entrepreneurship development among rural youth and women.

"Soil testing services": The guidelines are being followed and practiced in true spirit for offering the services of the institute laboratory for testing soil and water quality.

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**7.1.10 The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard.**

1. **The Code of Conduct is displayed on the website**
2. **There is a committee to monitor adherence to the Code of Conduct**
3. **Institution organizes professional ethics programmes for students, teachers, administrators and other staff**
4. **Annual awareness programmes on Code of Conduct are organized**

**Response:** B. 3 of the above

| File Description | Document |
|---|---|
| Details of the monitoring committee composition and minutes of the committee meeting, number of programmes organized, reports on the various programs etc., in support of the claims | View Document |
| Code of ethics policy document | View Document |
| Any other relevant information | View Document |

**7.1.11 Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).**

**Response:**

Every year, a week long Convocation programme of the PG school of the Institute organized in February which include presentation of significant post graduate students' research, presentation of'significant educational achievements by the professors of different disciplines, lectures by the recipients of institute awards and Lal Bahadur Shastri memorial lecture.

Besides the institute celebrates and organizes the following commemorative days throughout the year:

- Republic Day on 26th January
- Independence Day on 15th August
- The Institute celebrated World Water Day on March 22, 2021
- The Institute celebrated the International Women's Day in collaboration with Pusa Institute

Ladies Association (PILA) in March 8, 2021.

- National Science day on February 28, 2021
- IARI Foundation day: on April 1st
- IARI Jharkhand foundation day: on 28th June 2021
- World Bee Day on May 20th, 2021
- World Milk Day on June 1st , 2021
- World Yoga Day on June 21st
- World Soil Day on 5th December
- B. P. Pal Memorial Lecture on 20th July, 2021
- Teachers Day on 5th September

The festivals like Diwali, Durga Puja, Ganesh Chaturthi and Saraswati Puja, Muharram and Eid are observed by the faculty and the students of different states with great enthusiasm.

| File Description | Document |
|---|---|
| Geotagged photographs of some of the events | View Document |
| Annual report of the celebrations and commemorative events for the last five years | View Document |

## 7.2 Best Practices

**7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.**

**Response:**

# IARI Best Practice

# A. Title of practice: PUSA Decomposer Technology for agri-waste management

**A1. Objectives** India generates about 62 million tons of bio-waste every year. Not only the waste has increased in quantity, but the characteristics of waste have also changed tremendously over a period. The present practice is usually to burn these residues or to leave them to decompose in open. There is an urgent need for rapid degradation of all types of crop residues generated like paddy straw, maize stalks, sugar cane trash, flower waste, garden waste and kitchen waste as an alternate to burning. Some microbial formulations have been developed to overcome this problem but these are not easy to use under field conditions. At IARI, New Delhi, Pusa decomposer, a consortium of seven fungi, has been developed on the basis of their lingo cellulolytic enzyme production potential. In-situ and ex-situ biodegradation of crop residue and farm waste helps in improvement of soil health by increasing the organic carbon in soil and reduces air pollution by preventing farmers from burning of crop residue.

**A 2. The Context** Burning of crop residue causes damage to other micro-organisms present in the upper layer of the soil as well as its organic quality. Due to the loss of friendly pests, the wrath of enemy pests has increased and as a result, crops are more prone to disease. The solubility capacities of the upper layers of soil have also been reduced. According to a report, one tonne stubble burning leads to a loss of 5.5 kilogram nitrogen, 2.3 kg phosphorus, 25 kg potassium and more than 1 kg of sulfur all soil nutrients, besides organic carbon. Therefore, development of fast degrading, easy to pusa decomposer technology is giving a permanent solution to the farmer community. Farmers and entrepreneurs is relieved of disposal of paddy residue within 25 days time without burning and polluting the environment and also enhanced decomposition of paddy waste into a value added product i.e, compost would help as source of income.

**A3. The Practice Pusa Decomposer:** Division of Microbiology, ICAR-IARI, New Delhi, has developed an effective microbial solution Pusa Decomposer (both in liquid and capsule form)for accelerated decomposition of paddy straw. Four capsules of this product can be scaled up to 25L liquid formulation

which can be applied in- situ to 1.0 ha of rice field having 5- 6 tonnes of paddy straw. Pusa Decomposer plays an important role in *in-situ* and *ex-situ* decomposition of paddy straw. For *In-situ* management, harvesting paddy with combine followed by chopper plus mulcher and spraying Pusa Decomposer followed by rotavator and light irrigation to keep the field moist has shown accelerated decomposition of the paddy straw and enabled the farmer to do timely wheat sowing. This was widely demonstrated in Punjab, Haryana, UP and NCR Delhi. Use of Pusa Decomposer does not provide any machine substitution. It accelerates process of paddy straw decomposition and makes the field ready for wheat sowing in 25 days. Use of Pusa Decomposer enhances chemical, biological and nutritional profile of soil.

**A4. Evidence of Success** Last two years in 2020 and 2021 Delhi Govt. had the Pusa Decomposer solution sprayed on farmlands (1,935 acres) in the capital and found it decayed the crop stubble in around 20-25 days in time for the farmers to make the fields ready for next crop sowing. 90 of the farmers said the stubble and straw decomposed within 15-20 days when earlier it took 50-60 days. The farmers were happy that the wheat crop benefitted, as the yield increase was found to be 8-10. In 2021, ICAR-IARI in collaboration with a company is preparing to bring about >6000 acres under the Pusa Decomposer spray in Punjab alone for which 25,000 farmers have been selected to participate. UP Govt. is planning for 5000 ha to be brought under Pusa Decomposer. The technology has been licensed to 10 companies and each of them is keen to help the farmer to curtail the straw burning by mass production of the Pusa Decomposer product and making it readily available. Its use enriches the soil with organic carbon (OC), nutrients and soil biological and physical properties also improve. In contrast, burning of paddy straw kills beneficial microorganisms and in addition causes air pollution. Therefore, Pusa Decomposer is a long term sustainable solution for management of paddy straw in conjunction with machinery.

**A 5. Problems Encountered** The very first problem is due to different farms sizes mainly small < 5 acres to large > 100 acres, the exact following of SOP for Pusa decomposer is not being maintained by all the farmers. Secondly, availability and accessibility of machinery for proper dissemination of technology at farmers field is utmost important. Custom hiring of spray machines like boom sprayer should be provided at village level. Thirdly, results may vary due to difference in soil texture of different areas.

# B. Title of practice: Off-grid, batteryless PUSA farm sunfridge technology

**B1. Objectives** This is an innovative initiative to provide refrigerated storage of perishables for small holder farmers, even in areas lacking electricity supply. The requirement among farmers in India for community-level or on-farm cool structures for storage of perishables is immense, however their availability is limited. PUSA Farm Sun Fridge (FSF) is a specially designed off-grid battery less green energy solar-refrigerated evaporative cold storage structure that is effective and inexpensive and can enhance storability and help the grower control marketing of his high-value perishables. The FSF offers farmers an inexpensive access to "one's own" on farm cold store that requires no utility-based electricity, and can improve control over marketing crops to fetch better prices and enhance their income.

**B2 The Context** High post-harvest losses especially due to high ambient temperatures in summer season lack of sufficient cold storages and unreliable erratic electricity supply on farmers' fields are some of the challenges faced by small holder farmers in India. The Pusa Farm Sun Fridge meets these challenges successfully, because the Sun Fridge is cooled by solar energy (green or renewable energy) during the day and cold water in water battery (thermal storage) during nighttime. The 2-tonne Sunfridge can be easily built as on-farm structure and can help farmer store or pre cool his produce, which will enable reduction in post-harvest losses causing his enhanced income.

**B3 The Practice** The Farm Sun Fridge (FSF) is a solar-refrigerated evaporatively-cooled off-grid, batteryless, on-farm cold store for storage of perishables. The evaporative cooling component reduces heat load on the structure, enabling the use of a smaller solar panel array and smaller capacity refrigeration system. The FSF has been tested extensively for storage of amaranth - a model plant to evaluate imperfect storages. These 2-tonne FSFs can be self-built by farmers in two stages: initially as a evaporatively cooled store at 1st stage and then installing insulation and refrigeration system as add-on in the 2nd stage. The first of its kind concrete/FSF (inner size 3 x 3 x 3 m), built at the Division of Agricultural Engineering, IARI in 2017, was made of reinforced cement concrete (RCC) roof, supported on 4 concrete columns. The columns were sheethed in autoclaved aerated concrete (AAC) blocks and built on a concrete foundation. The iron frame FSF takes a quarter of that time to be completed and operational and would cost less in both materials and labor. This has been built in prefabricated and assemble-enabled iron frame at IARI exhibition ground.

**B4. Evidence of Success**: The FSF is operational at three semi-arid villages instates of Rajasthan, Haryana, and Delhi, and the fourth FSF is built as a demo unit at IARI Exhibition ground in Delhi. The latter has been visited by over500 farmers/ policy makers since March 2021, covered extensively on various print (total circulation approx. 5 million) and social media platforms, and has stimulated intense interest among growers and policy makers. Around 68 of the visitors have expressed a desire to build FSF at their farms.

**B5 Problems Encountered and Resources Required** The problems encountered are that the farmers and retailers need more than 2 tonnes capacity structure, so higher capacity FSFs need to be designed and built, for which more research is required too. More Farm Sun Fridges need to be built as demonstration units in different agro climatic zones in India for the farmers and retailers to have first-hand knowledge and hands on experience of the working of these off-grid batteryless cold stores. We would require 10 such FSFs in India for which the resources needed would be to the tune of 1 crore rupees.

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## 7.3 Institutional Distinctiveness

**7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words**

**Response:**

The thrust area of Indian Agricultural Research Institute, New Delhi is agricultural research and education. Genomics-aided analytical breeding programs of the Institute accelerated the pace of crop breeding and led to the release of varieties/hybrids with improved yield, quality and climate resilience in field and horticultural crops. In wheat, HD3171, HS562 and HW5207 were released for commercial cultivation in North Eastern Plain Zone (NEPZ), Northern Hills Zone (NHZ) and Tamil Nadu, respectively. A high yielding wheat variety HI1605 with high protein and micro-nutrients (iron, zinc) was released for Peninsular Zone. Durum wheat varieties HI8759 and HD4728 with an average yield of >5.4 t/ha were released for timely sown irrigated conditions of Central Zone (CZ). Using marker assisted selection breeding, high yielding and superior quality iron and zinc biofortified wheat variety HI8777 was released. Wheat variety HD3249 enriched with iron, zinc and HI8802 with high protein and carotenoid content was released in 2019. IARI wheat variety HD2967 occupied about 10 million ha and brought prosperity to the farmers. Three wheat varieties (HD3226, HD3237 and HI1620), one fine grain rice variety (Pusa Samba 1850) and two maize hybrids (Pusa Super Sweet Corn 1 and Pusa Jawahar Hybrid Maize 1) and 11 varieties/hybrids of different vegetables were released for commercial cultivation. IARI Basmati varieties earned about Rs. 25000 crores of export earnings. IARI has released two basmati rice varieties namely Pusa Basmati 1637 and Pusa Basmati 1728 with blast and bacterial blight resistance, respectively, for Punjab, Haryana, Delhi, Jammu & Kashmir, Uttarakhand, western Uttar Pradesh. The Pusa Basmati 1121 developed by the Institute earned Rs 50 lakh crores during 2008-2016, and brought prosperity to millions of farmers. An improved version of Pusa Basmati 1121 named Pusa Basmati 1718 was developed with inbuilt resistance to bacterial blight disease. To address the Vitamin A deficiency (VAD), three bio-fortified maize hybrids viz., 'Pusa HQPM-5 Improved', 'Pusa HQPM-7 Improved' and 'Pusa VH-27 Improved' were released. The Country's first double zero Indian mustard variety Pusa Double Zero Mustard 31 was released for Punjab, Haryana, Delhi, Jammu and northern Rajasthan. In pulses, desi chick pea BG 3043, lentil L-4717 and mung bean Pusa-137 varieties were released for NEPZ, CA and NHZ, respectively. In horticultural crops, 23 hybrids/varieties of vegetables and 2 varieties in flower crops were identified/released.

Pusa soil test fertilizer recommendation (STFR) meter has been improved, which is now capable of analyzing fourteen parameters viz., pH, EC, OC, 9 different available nutrients [(derived N), P, K, S, Zn, B, Fe, Mn and Cu], gypsum and lime requirement, and is expected to play a key role in soil health management. In addition, entomo-pathogenic nematode-based Galleria Cadaver for Insect Pest Management, BGA bio-fertilizer technology, VAM bio-fertilizer technology, and compost inoculant bio-fertilizer technology were licensed to different industries. The institute has also protected 26 crop varieties under 'Protection of Plant Varieties and Farmers Rights'. IARI has made a breakthrough in developing and popularizing "Pusa Decomposer", a fungal consortium, for in-situ and ex-situ crop residue decomposition which will help mitigate rice residue burning problem and air pollution, and also enhance soil fertility.

Three new rice varieties (PB 1718, PB 1728 and PB1637), 5 vegetable varieties, Pusa STFR and Compost Inoculant Biofertilizer Technology were licensed to 40 industry partners. During these years 11 patents and 8 copyrights were granted to the institute. The annual economic surplus generated from PB1121 are estimated at Rs. 14707 crores during triennium ending 2018-2019 which is 12-fold more than the budget of ICAR-IARI and two-fold more than the entire ICAR budget during 2018-19. About 48 of mustard grown area in the Country is cultivated with ICAR-IARI varieties. The average economic surplus generated by IARI mustard variety Pusa Mustard 25 during ending 2018-19 was estimated at Rs. 2919 crore and was allocated Rs.1499 crore to the farmers and Rs. 1420 crores to the consumers. To promote

agri-entrepreneurship and startups through Agribusiness Incubation programmes, SAMARTH 2019, UPJA 2019 and ARISE 2019 programs were launched. Under UPJA 2019, 618 applications were received of which 30 applicants were selected and incubated, and 78 on-to-one and group mentoring sessions were conducted.

The 57th Convocation of the Post Graduate School of the IARI was held on February 8, 2019. Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh awarded degrees to 239 candidates (123M.Sc., 22 M.Tech. and 94 Ph.D.), and 08 international students. IARI helped complete the establishment of Advanced Centre for Agricultural Research and Education (ACARE) at Yezin Agricultural University, Myanmar, and on 12 December, 2018 by Hon'ble President of India, Shri Ram Nath Kovind dedicated ACARE to the people of Myanmar. It is a matter of greatpride for this institute that 2020's World Food Prize was conferred upon Prof. Rattan Lal, an alumnus of IARI. The Institute was awarded with "Agricultural Leadership Award 2019" by a national agriculture magazine, "Agriculture Today" for helping the country attain and maintain self-sufficiency in food grains and for improving the economic conditions of Indian farmers.

To bridge the phenotype-genotype gap, the Institute has established "Nanaji Deshmukh Plant Phenomics Centre (NDPPC)" which was inaugurated by Hon'ble Prime Minister of India, Shri Narendra Modi and dedicated to the Nation on 11th October, 2017.

The Institute played a pivotal role in Mera Gaon Mera Gaurav (MGMG) programme which improved outreach of technologies through on field demonstrations and direct interaction between scientists and farmers. Pusa Krishi Vigyan Mela 2019 with the theme of Krishi Vikas: Innovative Technologies was organized from March 5-7, 2019, wherein over one lakh visitors and 170 public and private exhibitors from across the country participated.

IARI faculties have brought large number of externally funded project worth Rupees 184.78 crores, and IARI had collaboration with 4 or more Institute in each of 78 externally funded projects. About Rupees 603 lakhs worth new equipment were added to the laboratories. IARI was awarded with Centre for Advanced Agricultural Technology (CAAST) project under National Agricultural Higher Education program with a budget of Rs 1999.68 lakhs for enhancing faculty and student research skills and research outcomes.

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| Any other relevant information | [View Document](#) |
| Appropriate web in the Institutional website | [View Document](#) |

# 5. CONCLUSION

## Additional Information :

From the current academic session 2022-23, in compliance with the NEP the Institute has started the four undergraduate programmes namely BSc (Hons) Agriculture, BTech (Agricultural engineering), BTech (Biotechnology), BSc (Hons) (Community science) and also the certificate and diploma courses on several aspects. To cater to the needs of growing student strength IARI has planned for massive infrastructure development in the coming years. Two new hostels are ready of the capacity of accommodating 1000 students. Institute is making all round efforts to implement the National Education Policy. IARI has also registered for NIRF ranking for 2022 and also the QS ranking with an aim to be the global University as its first priority.

## Concluding Remarks :

IARI established in 1905, spread across 1235 acres of land in heart of Delhi, is premier seat of PG teaching and cutting edge research and technology development in the field of agriculture. The institute is accredited by ICAR for the period 2021-25 and was graded A+ by NAAC during its Ist Cycle (2017-21). It also figured at 23rd position in NIRF ranking and has world class facility namely Nanaji Deshmukh Plant Phenomics Center, Discovery Center (set up under a world bank funded project NAHEP scheme) and others. During the reported period 38 patents have been filed/ granted. The institute has strength of 500 highly qualified and learned faculty and during the assessment period 2110 students are admitted. During the reported period, 1255 degrees have been awarded. The institute, thus richly deserves accreditation from NAAC under 2nd Cycle (2022-27).