

Yearly Status Report - 2016-2017

Part A				
Data of the Institution				
1. Name of the Institution	Indian Agricultural Research Institute			
Name of the head of the Institution	DR ASHOK KUMAR SINGH			
Designation	Director			
Does the Institution function from own campus	Yes			
Phone no/Alternate Phone no.	01125842367			
Mobile no.	9899045037			
Registered Email	director@iari.res.in			
Alternate Email	aks_gene@yahoo.com			
Address	IARI, PUSA, NEW DELHI			
City/Town	NEW DELHI			
State/UT	Delhi			
Pincode	110012			
2. Institutional Status				

University	Deemed
Type of Institution	Co-education
Location	Urban
Financial Status	central
Name of the IQAC co-ordinator/Director	DR PRAMOD KUMAR
Phone no/Alternate Phone no.	01125842416
Mobile no.	9910633210
Registered Email	incharge_pme@iari.res.in
Alternate Email	pramod_iari@yahoo.co.in
3. Website Address	
Web-link of the AQAR: (Previous Academic Year)	https://iari.res.in/
4. Whether Academic Calendar prepared during the year	Yes
if yes,whether it is uploaded in the institutional website: Weblink:	https://iari.res.in/index.php?option=com_content&view=article&id=633&Itemid=196

5. Accrediation Details

Cycle	Grade	CGPA	Year of	Vali	dity
			Accrediation	Period From	Period To
1	A+	3.51	2016	16-Sep-2016	15-Sep-2021

6. Date of Establishment of IQAC

11-May-2017

7. Internal Quality Assurance System

Quality initiatives by IQAC during the year for promoting quality culture					
Quality Illitiatives	Quality illitiatives by IQAC during the year for promoting quality culture				
Item /Title of the quality initiative by Date & Duration Number of participants/ beneficiari					
Research Advisory Committee	24-Dec-2016 2	40			
Academic Council Meeting	04-Feb-2016	46			

	1		
Academic Council Meeting	20-May-2016 1	41	
Academic Council Meeting	08-Jul-2016 1	39	
Academic Council Meeting	30-Nov-2016 1	41	
Extension Council Meeting	30-Jun-2016 1	45	
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8. Provide the list of Special Status conferred by Central/ State Government-UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

nstitution/Departmen t/Faculty	Scheme	Funding Agency	Year of award with duration	Amount
Division of Agricultural Economics	Centre of Advanced Faculty Training (CAFT)	ICAR	1995 9855	535463
Division of Plant Pathology	Centre of Advanced Faculty Training (CAFT)	ICAR	1995 9855	296107
Division of Agricultural Extension	Centre of Advanced Studies (CAS) (1990) & Centre of Advanced Faculty Training (CAFT) (2010)	ICAR	1995 9855	912984
Division of Plant Pathology	National Certification System for Tissue Culture Raised Plants (NCS-TCP)	DBT	2016 1460	2522000
Division of Biochemistry	Centre of Advanced Faculty Training (CAFT)	ICAR	1995 9855	692749
ZTM &BPD Unit, IARI	IP SPECTRA (Intellectual Property Facilitation Center)	Ministry of MSME	2016 2190	1500000
ZTM &BPD Unit, IARI	ABIC	ICAR	2016 1095	6000000

9. Whether composition of IQAC as per latest NAAC guidelines:	Yes
Upload latest notification of formation of IQAC	<u>View File</u>
10. Number of IQAC meetings held during the year :	7
The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional website	Yes
Upload the minutes of meeting and action taken report	<u>View File</u>
11. Whether IQAC received funding from any of the funding agency to support its activities during the year?	No

12. Significant contributions made by IQAC during the current year(maximum five bullets)

- o The academic rules and regulations for the year are delineated in the academic term calendar and is implemented through PG School, Dean, Professors, Board of Studies (BoS)
- o Significant contributions made by MSc/ PhD students is presented by the Professor of each Division at Annual Convocation week programme
- o To encourage students to do good work and to achieve excellence in education and research the selected MSc/ PhD students from each Division is invited to participate in Gold Medal presentation Award competition.
- o The Research programme for the year prepared by the Divisions in the Divisional Budget and Research Committee (DBRC), it is then implemented by the PIs/ Co-PIs of the projects and is evaluated in the Institute Research Council (IRC I), Institute Research Council (IRC II) and Research Advisory Committee (RAC).
- o The Extension activities of the Institute for the year are planned in the Extension Council Meeting

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13. Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year

Plan of Action	Achivements/Outcomes
_	Accomplished the scheduled activities delineated in the academic calendar in time

	,	
Research programme is prepared for a period of five years and annually revised by DBRC	Accomplished the research activities as per schedule.	
The Extension activities of the Institute is planned in the Extension Council meeting	The trainings, on farm demonstrations, farmers visits, Pusa Krishi Mela, etc have been achieved as per plans.	
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14. Whether AQAR was placed before statutory body ?	Yes	
Name of Statutory Body	Meeting Date	
DG, ICAR (RAC proceedings are placed and approved)	24-Dec-2016	
15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning ?	No	
16. Whether institutional data submitted to AISHE:	Yes	
Year of Submission	2018	
Date of Submission	18-Aug-2018	
17. Does the Institution have Management Information System ?	Yes	
If yes, give a brief descripiton and a list of modules currently operational (maximum 500 words)	PG School, IARI Management System exists for online management of academic activities of students. The system is available to students, faculty members, scientists and administrative staff of PG school. The management system includes, course management, student management, faculty management, administrative management, eLearning and student Research management system. The student management system monitors the progress of each student through constitution of advisory committees, Board of Studies, preparation, submission and approval of PPWs and ORWs. The online system facilitates conduction of qualifying examination, thesis submission and final viva voce examination. This system also operates for online submission of fees. Besides this, eoffice is in place for management of office files. Management of Information	

Services Financial Management System exists to take up Financial Management: Solutions for General ledger, Account Payable, Account Receivable, Cash Management, Fixed Assets Management, Budget Management and grants, Project Management: Scope for Project Information, Costing, Project Documents, Contract Management and Collaboration of Project documents, Material Management: Solutions for Purchase and Inventory Management, Human Resource: Employee information, HR policies, Leave Management, Performance and Appraisal System and Payroll System: Salary, GPF, Pension Payment, Retirement Benefit Calculation and Income tax calculation Solutions for all the ICAR employees.

Part B

CRITERION I – CURRICULAR ASPECTS

1.1 – Curriculum Design and Development

1.1.1 - Programmes for which syllabus revision was carried out during the Academic year

Name of Programme	Programme Code	Programme Specialization	Date of Revision
MSc(Agriculture)	Nill	Climate smart Agriculture (ES 511)	09/02/2017
PhD or DPhil	Nill	International Agriculture (PGS 507)	09/02/2017
PhD or DPhil	Nill	Advances in breeding for stress resistance in vegetable crops (VSC 623)	09/02/2017
PhD or DPhil	Nill	Advances in breeding for quality and special traits in vegetable crops (VSC 624)	09/02/2017
PhD or DPhil	Nill	Introduction to emerging agricultural techniques (Ag Ext 560)	09/02/2017
PhD or DPhil	Nill	Advances in instructional technology (Ag Ext 607)	09/02/2017
PhD or DPhil	Nill	Quantitative techniques for	09/02/2017

		social research (Ag Ext 608)	
MSc(Agriculture)	Nill	Basic Microeconomic Theory (AGECON 501)	09/02/2017
MSc(Agriculture)	Nill	Basic Macroeconomic Theory and Applications (AGECON 502)	09/02/2017
MSc(Agriculture)	Nill	Basic Econometrics (AGECON 510)	09/02/2017
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1.1.2 – Programmes/ courses focussed on employability/ entrepreneurship/ skill development during the Academic vear

Programme with Code	Programme Specialization	Date of Introduction	Course with Code	Date of Introduction
Nill	Nill	Nill	AC 505: Agrochemical regulation, quality control and management	09/07/2010
Nill	Nill	Nill	AE 555: Testing and evaluation of agricultural equipment	09/07/2010
Nill	Nill	Nill	AE 620: GIS and remote sensing for land water resource management AE 657: Computer aided analysis and design of farm mac	09/07/2010
Nill	Nill	Nill	AE 657: Computer aided analysis and design of farm machinery	09/07/2010
Nill	Nill	Nill	AE 656: Machinery systems for precision agriculture	09/07/2010
Nill	Nill	Nill	AG ECON 530: Agricultural marketing	09/07/2010
Nill	Nill	Nill	AG ECON 630:	09/07/2010

			Agricultural price analysis	
Nill	Nill	Nill	AG ECON 641: Institutional and legal environmental for agribusiness	09/07/2010
Nill	Nill	Nill	AG ECON 532: International trade	09/07/2010
Nill	Nill	Nill	AG ECON 550: Agricultural development and policy analysis	09/07/2010
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1.2 - Academic Flexibility

1.2.1 - New programmes/courses introduced during the Academic year

Programme/Course	Programme Specialization	Dates of Introduction
No Data Entered/Not Applicable !!!		

1.2.2 – Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the University level during the Academic year.

Name of programmes adopting CBCS	Programme Specialization	Date of implementation of CBCS/Elective Course System
MSc(Agriculture)	Nill	22/08/1958
PhD or DPhil	Nill	22/08/1958

1.3 – Curriculum Enrichment

1.3.1 - Value-added courses imparting transferable and life skills offered during the year

Value Added Courses	Date of Introduction	Number of Students Enrolled
Advances in Breeding for Stress Resistance in Vegetable Crops (VSC611)	21/01/2016	7
Advances in Vegetable Breeding for Quality and Special Traits (VSC622)	03/04/2017	7
Algae in Agriculture and Industry (MB605)	03/04/2017	4
Applications of Microorganisms in Agriculture (MB606)	21/11/2016	3
Basic Horticulture (VS507)	01/08/2016	5
Biotechnology for Vegetable Crop Improvement (VSC 601)	01/08/2016	7
Breeding of Cross	21/11/2016	16

Pollinated Vegetable Crops (VSC 513)			
Breeding of Self Pollinated Vegetable Crops (VSC522)	03/04/2017	9	
Food Microbiology (MB507)	21/11/2016	5	
Hi-tech Vegetable Farming (VSC621)	03/04/2017	7	
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1.3.2 - Field Projects / Internships under taken during the year

Project/Programme Title	Programme Specialization	No. of students enrolled for Field Projects / Internships
MSc(Agriculture)	Impact of credit on adoption of high value crop: A case of banana cultivation; Jobin Sebastin (20498), MSc (Ag Econ)	1
MSc(Agriculture)	An analysis of risk management in rainfed agriculture: A case of soybean in Madhya Pradesh; Raghvendra KJ (20500), MSC (Ag Econ)	1
MSc(Agriculture)	An economic study of farmers preference of rice varietal traits and impact of improved rice varieties in North Eastern plain zone of Uttar Pradesh; Ravindra (20501), MSc (Ag Econ)	1
MSc(Agriculture)	Economics of contract farming: A case study of basmati rice; Emal Shegiwal (20608), MSc (Ag Econ)	1
MSc(Agriculture)	Soybean economy of India: The issues of farm profitability, processing and trade; Ms Masooma Khawari (20609), Msc (Ag Econ)	1
MSc(Agriculture)	Comprehensive nutritional mission program in India- A multidimensional study; Channaveeresh RM (20507), MSc (Ag Extn)	1
MSc(Agriculture)	Empowerment of women through information and	1

	communication technology: A case analysis of connecting Dream foundation; Rabeesh Kumar Verma (20508), MSc (Ag Extn)	
MSc(Agriculture)	Critical analysis of knowledge management in agriculture: A case of rice knowledge management portal (RKMP); Sunil Kumar (20511), MSc (Ag Extn)	1
PhD or DPhil	Investments and policy imperatives for sustainable development of Kuttanad wetland ecosystem of Kerala; Ms Lisa Mariam Varkey (9774), PhD (Ag Econ)	1
PhD or DPhil	An economic analysis of consumer behaviour and impact of organized food retailing; Mr Punit Kumar (9776), PhD (Ag Econ)	1

1.4 - Feedback System

1.4.1 – Whether structured feedback received from all the stakeholders.

Students	Yes
Teachers	No
Employers	No
Alumni	No
Parents	No

1.4.2 – How the feedback obtained is being analyzed and utilized for overall development of the institution? (maximum 500 words)

Feedback Obtained

The university has well-defined mechanism to obtain structured feedback from all the stakeholders viz. students, teachers etc, which is then scrupulously processed to derive actionable insights for improving the overall output and impact of the various teaching courses/programmes. To cite an examples at the end of each trimester, the students are provided with the a "Course evaluation proforma" for each course taught in that trimester for their candid and uninhibited feedback about the course. The "Course evaluation proforma" contains objective questions to assess the perception of the students regarding the course design and its implementation. The response of the students is analysed by the Professor of the Division as well as by the competent authorities in the PG School, ICAR-IARI and appropriate actions are taken immediately to fill in the deficiency gaps, if any, highlighted by the students for the further improvement of the course. If there is any shortfall as regard to the method and mode of teaching of any of the course instructors, he/she is personally advised by the Professor of the Discipline to take necessary

measures to live up to the expectations of the students. Similarly, the course instructors whose teaching style is appreciated by the students, in the evaluation proformae submitted by them, are acknowledged for their performance at various platforms in order to encourage them to keep up the good work. Every year before the convocation programme, nominations of the consistently topperforming faculty members are invited by the PG School, ICAR-IARI from each Discipline and BEST TEACHER AWARD(S) are decided upon amongst these nominees this award is conferred every year during the convocation programme. Furthermore, Board of Studies in each Discipline is constituted with faculty members from each category, alongwith one students' representative. The meetings of the BOS are regularly convened to deliberate and decide upon various issues concerning teaching programmes. The faculty members and students are encouraged to put forth their genuine concerns and viewpoints for their forwardal to the PG School for further discussion in the four standing committees. The recommendations of the standing committee are discussed and approved, if found suitable, in the Academic Council meetings, which are held at least thrice in a year. The elected representatives of the faculty and students (two each) are also members of Academic Council and can raise their concerns and innovative ideas in the academic council meetings to improve the teaching and learning practices at IARI. The feedback is also obtained from the IARI Alumni during the Alumni dinner organised in the Convocation week celebration. The concerns of common interest are also discussed at Professors' meeting organized at regular intervals by Dean and Joint Director (Edn.) IARI.

CRITERION II – TEACHING- LEARNING AND EVALUATION

2.1 - Student Enrolment and Profile

2.1.1 – Demand Ratio during the year

Name of the Programme	Programme Specialization	Number of seats available	Number of Application received	Students Enrolled
MSc(Agricultu re)	Nill	155	Nill	145
PhD or DPhil	Nill	184	2039	184
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2.2 - Catering to Student Diversity

2.2.1 - Student - Full time teacher ratio (current year data)

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of fulltime teachers available in the institution teaching only UG	institution	Number of teachers teaching both UG and PG courses
			courses	courses	
2016	Nill	998	Nill	506	Nill

2.3 - Teaching - Learning Process

2.3.1 – Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), Elearning resources etc. (current year data)

Number of Teachers on Roll	Number of teachers using ICT (LMS, e- Resources)	ICT Tools and resources available	Number of ICT enabled Classrooms	Numberof smart classrooms	E-resources and techniques used
506	506	Nill	32	6	Nill

View File of ICT Tools and resources

View File of E-resources and techniques used

2.3.2 – Students mentoring system available in the institution? Give details. (maximum 500 words)

The Institute has developed a robust and vibrant student mentoring system over the years, which has contributed a great deal towards the skill- and knowledge-enrichment of the students, their employability leading to significant enhancement in the overall output and impact of the institute at national and international arena. 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, MOHR, Librarian, medical Officer, HODs, Professors and faculty members etc. All the higher officials address the newly admitted students in this programme to encourage them and to make them 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. To enable the students to quickly adopt to the new environment similar programmes are organized at the Divisional level also. The IARI has a unique system of appointment of one Professor in each Discipline, who looks after all the academic affairs of the division. During initial one month of students'admission, he and HOD guides the students for various academic activities. The allotment of the Research Guides to the students is done within the first trimester of their admission. After this, the Research guides take over the role of mentorship of the students allotted to them. He/she helps them in the selection of courses and in the constitution of their advisory committee, which has members from the major, minor and supporting divisions. The advisory Committee of the students help them to prepare their Plan of Post Graduate Work (PPW) and the Outline of Research Work (ORW). The advisory committee of the students meets regularly not only to provide ccounselling and assistance to the students but also to identify his/her strengths and weaknesses, taking appropriate measures to bridge the recognized gaps and further building on their strengths. Students are also counselled by Master of Halls of Residence (MOHR) and wardens of their respective hostels. The institute has a placement cell which provides the much-needed career guidance to the students along with HOD, Professor, and their respective Research Guides. Besides, an honorary "Lady Students' Adviser" is nominated by the Dean to look after the welfare and needs of lady students. In addition, an honorary "Foreign Students' Adviser" is nominated by the Dean to not only to look after the academic needs and problems of the foreign students but also to make them aware about social and cultural fabric of India. A Hospitality Committee functions under the Chairmanship of the Foreign Students' Adviser to look after the comfort of foreign students. A qualified Medical Officer takes care of health for better efficiency and output The Medical Officer resides on the Institute campus and is thus available during day and night. The medical service is provided free to students at the dispensary. Th Standing Committee on Students Problems Discipline, Welfare, Board and Residences considers Complaints/Grievance of students, if any.

Number of students enrolled in the institution	Number of fulltime teachers	Mentor : Mentee Ratio
998	506	1:2

2.4 - Teacher Profile and Quality

2.4.1 - Number of full time teachers appointed during the year

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D
572	506	66	44	418

2.4.2 – Honours and recognition received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

Year of Award	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
2016	Dr. G. P. Singh	Professor	Rafi Ahmed Kidwai Award
2016	Dr. (Ms.) Neelam Patel	Professor	ICAR-Panjab Rao Deshmukh Outstanding Woman Scientist Award, ICAR

2016	Dr. D. R. Biswas	Professor	IARI Best Teacher Award	
2016	Dr. Man Singh	Professor	IARI Best Teacher Award	
2016	Dr. Akshay Talukdar	Professor	IARI Best Teacher Award	
2016	Dr V.K. Sehgal	Professor	IARI Best Teacher Award	
2016	Dr Dinesh Kumar	Professor	IARI Best Teacher Award	
2016	Dr. B.S. Dwivedi	Professor	Hari Krishna Shastri Memorial Award for outstanding Research Contributions in Soil Science Agricultural Chemistry- IARI, New Delhi	
2016	Dr Rashmi Singh	Professor	Professor Y. P. Singh Memorial Award, Indian Society of Extension Education, New Delhi	
2016	Dr. V.R. Sagar	Professor	S.K. Mitra Memorial Award and Gold Medal - All India Food Processors Association	
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2.5 – Evaluation Process and Reforms

2.5.1 – Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year- end examination	Date of declaration of results of semesterend/ year- end examination
MSc(Agricultu re)	Nill	Trimester II	02/04/2016	09/04/2016
PhD or DPhil	Nill	Trimester II	02/04/2016	09/04/2016
MSc(Agricultu re)	Nill	Trimester III	23/07/2016	30/07/2016
PhD or DPhil	Nill	Trimester III	23/07/2016	30/07/2016
MSc(Agricultu re)	Nill	Trimester I	19/11/2016	26/11/2016
PhD or DPhil	Nill	Trimester I	19/11/2016	26/11/2016

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2.5.2 – Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

Number of complaints or grievances about evaluation	Total number of students appeared in the examination	Percentage
0	231	0

2.6 - Student Performance and Learning Outcomes

2.6.1 – Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

http://pgs.iasri.res.in/pgs_main.asp

2.6.2 - Pass percentage of students

Programme Code	Programme Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final year examination	Pass Percentage
Nill	MSc(Agricu lture)	Nill	120	120	100
Nill	PhD or DPhil	Nill	111	111	100

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2.7 - Student Satisfaction Survey

2.7.1 – Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

https://iari.res.in/files/Latest-News/Result based on response 2016.pdf

CRITERION III - RESEARCH, INNOVATIONS AND EXTENSION

3.1 - Promotion of Research and Facilities

3.1.1 - Teachers awarded National/International fellowship for advanced studies/ research during the year

Туре	Name of the teacher awarded the fellowship	Name of the award	Date of award	Awarding agency
International	Dr Amalendu Ghosh	Endeavour Research Fellowship	01/06/2016	Australian Government
National	Dr Pritam Kalia	IAEA-Austria sponsored Training for the Scientist, Mauritius	08/08/2016	IAEA-Austria sponsored Training
National	Dr VK Barnawal	Third International Citrus Congress, Brazil	18/09/2016	DBT, GOI
National	Dr Rashmi Aggarwal	Mitigation of Threat of Wheat	26/07/2016	CIMMYT

		Blast Workshop, Nepal		
National	Dr Rashmi Aggarwal	Fellow	18/02/2016	Indian Mycological Society, Kolkata
International	Dr G.K. Jha	NEWS India-UK Fellowship, UK	27/02/2016	UK
International	Dr MS Nain	Workshop on Agricultural Insurance Systems, Philippines	28/11/2016	IARI
International	Dr Rabi Narayan Sahoo	Conference on State-of the Art Technologies to Drive Agricultural Productivity in the Next Quarter of the Century organized by Asian Productivity Organisation, Tokyo, Japan	30/06/2016	APO and NPO New Delhi
International	Dr Debashis Chakraborty	Analysis of existing long term Philippines	10/08/2016	IRRI, Philippines
Nill	Dr Seema Sepat	Norman E Borlaug International Agricultural Science and Technology Fellowship	03/04/2016	USDA

3.1.2 – Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other fellows in the Institution enrolled during the year

Name of Research fellowship	Duration of the fellowship	Funding Agency
IARI JUNIOR FELLOWSHIP	730	ICAR-IARI
IARI SENIOR FELLOWSHIP	1095	ICAR-IARI
ICAR JRF SRF SCHOLARSIP	1095	ICAR
SRF	1825	DBT
SRF	1825	DST
SRF	1825	CSIR
NATIONAL FELLOWSHIP (SC)	1825	UGC

NET-JRF	1825	UGC	
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3.2 - Resource Mobilization for Research

3.2.1 – Research funds sanctioned and received from various agencies, industry and other organisations

Nature of the Project	Duration	Name of the funding agency	Total grant sanctioned	Amount received during the year
Major Projects	730	ICAR, DST- UKERI, DRDO, WTC, DBT, DST, Indo-Australian Program, MoFPI, MoEF, DAC, MSME, NHB, PPVFRA, IMD, RKVY, NCPH	33865.33	4139.16
Minor Projects	730	ICAR, DST, PPVFRA, SAC	288.97	52.07
Industry sponsored Projects	730	1.The Energy and Resources Institute 2.Ganga Kaveri Seeds Pvt. Ltd, Hyderabad 3.M/s Barely (RD) Sub Miller India Ltd., RBL, Neemarana (d) 4.M/s Rajasthan State Seed Organic Production	8.09	1.09
Projects sponsored by the University	2190	IARI	890	890
International	730	CIMMYT, ICARDA, IRRI	485.98	52.68
Projects				

3.3 – Innovation Ecosystem

3.3.1 – Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of workshop/seminar	Name of the Dept.	Date
Zonal Workshop and Arise launch Day	ZTM BPD UNIT	09/06/2016
Business Incubation Workshop' organized under 'Arise, Launchpad for Agri Start-ups'	ZTM BPD UNIT	18/09/2016
Soil Fertility Evaluation and Nutrient	ZTM BPD UNIT	14/11/2016

Management for Enhancing Crop Productivity and Soil health.				
Soil Fertility Evaluation and Nutrient Management for Enhancing Crop Productivity and Soil health.	ZTM BPD UNIT	21/11/2016		
Unlocking the Secrets to Create A Successful Tissue Culture Enterprise" - ADP	ZTM BPD UNIT	28/11/2016		
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3.3.2 - Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innevation Name of Awardon Awarding Agency Date of award Category					
For enabling farmers to access the latest information on technological advancement in their fields	Name of Awardee ZTM BPD UNIT	Awarding Agency Digital Empowerment Foundation	Date of award	Category Certificate of Recognition, mBillionth Award South Asia	
"From Lab to Land" for successful comm ercialization of inventions from lab to land	ZTM BPD UNIT	RMAI	Nill	Gold in Flame Awards Asia, 2016 under the category of "Innovative Farm Model for Farm Profit" for the campaign "From Lab to Land" for successful commercializati on of inventions from lab to land.	
Diversity analysis and GMS hybrid performance for caretonoids and flower yield in marigold (Tagetes Erecta L)	Dr Sapna Panwar, PhD	Best Dissertation Award	Nill	Indian Society of Ornamental Horticulture	
Standardisation of dehydration and storage techniques for higher retention of	Akshaya HR, MSc	Best Dissertation Award	Nill	Indian Society of Ornamental Horticulture	

carotenoids and antioxidant properties in marigold (Tagetes sp.) flowers				
Structural and functional analysis of rice phyllospheric bacteria for their antimicrobial properties and defence illicitation against blast diseases	Kuleshwar Prasad Sahu, PhD	All India Agricultural Students Association	Nill	Student of the year Award
Detection of Outliers in Linear Time Series in Agricultural Data	Gopal Saha	IASRI	Nill	Nehru Memorial Gold Medal for best student in M.Sc.
Use of Calibration Approach for Estimation of Finite Population Regression Coefficient Involving Two- Stage Sampling Design	Pradip Basak	IASRI	Nill	M.K. Bose Award for best student in Ph.D.
A web based information system for agricultural equipment and products	P.N. Somanna	IASRI	Nill	Nehru Memorial Gold Medal for best student in M.Sc
Effect of elevated atmospheric carbon dioxide on chickpea (cicer arietinum L.) water use and rhisospheric carbon dynamics	Saurav Saha	ICAR	Nill	Jawaharlal Nehru Award
Green house gas emission from rice wheat cropping system	Dr. Dipak Gupta	ICAR	Nill	Jawaharlal Nehru Award

in the indogangetic plains (IGP) of India and options for low carbon agriculture				
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3.3.3 – No. of Incubation centre created, start-ups incubated on campus during the year

Incubation Center	Name	Sponsered By	Name of the Start-up	Nature of Start- up	Date of Commencement
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	Beej India Pvt. Ltd	Seeds Production Processing of commodities	19/09/2016
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Jai- Biotech Research Centre	Manufactur ing of Bio- fertilizers and Bio- pesticides	19/09/2016
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Society for Farmer Development	Biscuit Making from Nutritionall y Rich Traditional Millets in Combination with wheat flour	19/09/2016
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Natures Lap	Utilization of Waste Mango Kernel for Extraction of Rich Mango Kernel butter and oil	19/09/2016
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Arpan Seeds	Double zero Mustard	19/09/2016
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Unison Agroco	Instant mix millets Breakfast	19/09/2016
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	Kad Bio- Tech	Innovation Production and marketing of quality Soyanut under the Brand Name	19/09/2016

				Soa Nutri Nuts		
ZTM BPD UNIT	ZTM PBD UNIT	ICAR	M/s Ananya Seeds Pvt.Ltd	Production and Marketing of High Quality Hybrid OP seeds and vegetables and field crop	19/09/2016	
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Natures Solution	Nill	19/09/2016	
ZTM BPD UNIT	ZTM BPD UNIT	ICAR	M/s Aegis Agro Chemicals India Pvt. Ltd	Nill	19/09/2016	
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3.4 - Research Publications and Awards

3.4.1 – Ph. Ds awarded during the year

Name of the Department	Number of PhD's Awarded
Agricultural Chemicals	5
Agricultural Economics	3
Agricultural Engineering	5
Agricultural Extension	6
Agricultural Physics	2
Agricultural Statistics	3
Agronomy	12
Biochemistry	1
Entomology	9
Environmental Sciences	5
Genetics and Plant Breeding	10
Horticulture	13
Microbiology	3
Molecular Biology and Biotechnology	7
Nematology	2
Plant Genetic Resources	1
Plant Pathology	8
Plant Physiology	6
Post Harvest Technology	3
Seed Science and Technology	5
Soil Science and Agricultural Chemicals	5

Water Technology Center 1

3.4.2 - Research Publications in the Journals notified on UGC website during the year

Туре	Type Department		Average Impact Factor (if any)			
National	Aagricultural Chemicals	16	Nill			
National	Agricultural Economics	4	Nill			
National	National Agricultural Engineering		Nill			
National	Agricultural Extension	11	Nill			
National	Agricultural Physics	3	Nill			
International	Agricultural Chemicals	4	Nill			
International	Agricultural Engineering	2	Nill			
International	Agricultural Extension	1	Nill			
International	Agricultural Physics	6	Nill			
International	Agronomy	6	Nill			
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3.4.3 – Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

Department	Number of Publication
Agricultural Chemicals	6
Agricultural Economics	1
Agricultural Engineering	8
Agricultural Extension	13
Agricultural Physics	2
Agronomy	40
Biochemistry	5
Entomology	19
Environmental Sciences	9
Genetics and Plant Breeding	35
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3.4.4 - Patents published/awarded/applied during the year

Patent Details	Patent status	Patent Number	Date of Award
Novel Superabsorbent hydrogel/s and the method of obtaining	Published	274643	26/08/2016

the same					
A Process for Preparation of Polymer Encapsulated Nano- Sulfur Fungicide	Published	277235	16/11/2016		
Process for the preparation of 5 substituted 1-3,4 oxiadiazole - 2 thiols as new urease and nitrification inhibitors	Published	279536	27/01/2017		
Improvement in/or relating to synthesis of O-alkyl derivatives of Oxime ethers of piperonal as potential fungicides	Published	281543	21/03/2017		
Pusa Chickpea thresher	Published	282047	30/03/2017		
Improved neem Larvicidal Composition	Published	282129	31/03/2017		
Mosquito Larvicidal Compositions	Published	282133	31/03/2017		
Digital Soil Test and Fertilizer Recommendation (STFR) Meter	Published	PCT/IB2016/0531	08/12/2016		
A semi-synthetic diet for mass rearing five species of genus Bactrocera (Insecta: Diptera: Tephritidae) of agricultural and quarantine significance.	Nill	201711009555	20/03/2017		
No file uploaded.					

3.4.5 – Bibliometrics of the publications during the last academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Title of the Paper	Name of Author	Title of journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citation
High salinity	AbdElgaw ad, H.,	Frontiers	2016	Nill	ICAR- IARI	241

ICAR- 225 IARI	ICAR- 224 IARI
Nill	Nill
2016	2016
Nature Climate Change	Scientific Reports
H., Abuelsoud, W. Liu, B., Asseng, S., Müller, C., Ewert, F., Elliott, J., Lobell, D.B., Martre, P., Ruane, A.C., Wallach, D., Jones, J.W., Rose nzweig, C., Aggarwal, P.K., Alderman, P.D., Anothai, J., Basso, B., Biernath, C., Cammarano, D.,	D., Challinor, A., Deryng, D., Ladha, J.K., Tiro 1-Padre, A., Reddy, C.K., Cassman, K.G., Verma, S., Powlson,
induces different oxidative stress and antioxidan t responses in maize seedlings organs Similar estimates of tempera ture impacts on global wheat yield by three inde pendent methods	Global nitrogen budgets in cereals: A 50-year assessment for maize, rice, and wheat production systems

	raborty, D., Pathak, H.					
Methane production , oxidation and mitiga tion: A me chanistic understand ing and co mprehensiv e evaluation of influen cing factors	Malyan, S.K., Bhatia, A., Kumar, A., Gupta, D.K., Singh, R., Kumar, S.S., Tomer, R., Kumar, O., Jain, N.	Science of the Total Envi ronment	2016	Nill	ICAR- IARI	108
Environm ental sust ainability of bioethanol production from rice straw in India: A review	Singh, R., Srivas tava, M., Shukla, A.	Renewable and Sustai nable Energy Reviews	2016	Nill	ICAR- IARI	108
Use of sugarcane industrial by- products for improving sugarcane productivi ty and soil health	Dotaniya, M.L., Datta, S.C., Biswas, D.R., Dotaniya, C.K., Meena, B.L., Raje ndiran, S., Regar, K.L., Lata, M.	Internat ional Journal of Recycling of Organic Waste in A griculture	2016	Nill	ICAR- IARI	104
Genomic selection in the era of next generation sequencing for complex traits in plant breeding		Frontiers in Genetics	2016	Nill	ICAR- IARI	103

	Singh, G.P., Prabhu, K.V.					
Long term effect of conservati on agricul ture in maize rotations on total organic carbon, physical and biological properties of a sandy loam soil in north- western In do- Gangetic Plains	Parihar, C.M., Yadav, M.R., Jat, S.L., Singh, A.K., Kumar, B., Pradhan, S., Chakra borty, D., Jat, M.L., Jat, R.K., Saharawat, Y.S., Yadav, O.P.	Soil and Tillage Research	2016	Nill	ICAR- IARI	93
Molecular diversity and multif arious plant growth promoting attributes of Bacilli associated with wheat (Triticum aestivum L.) rhizos phere from six diverse ag ro-ecologi cal zones of India	Verma, P., Yadav, A.N., Khannam, K.S., Kumar, S., Saxena, A.K., Suman, A.	Journal of Basic M icrobiolog y	2016	Nill	ICAR- IARI	92
Mapping QTLs for Salt Tolerance in Rice (Oryza sativa L.) by Bulked Segregant Analysis	Tiwari, S., Sl, K., Kumar, V., Singh, B., Rao, A.R., Sv, A.M., Rai, V., Singh, A.K., Singh,	PLOS ONE	2016	Nill	ICAR- IARI	86

of Recombi	N.K.				
nant					
Inbred					
Lines					
Using 50K					
SNP Chip					
		•	<u>View File</u>		

3.4.6 - h-Index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the Paper	Name of Author	Title of journal	Year of publication	h-index	Number of citations excluding self citation	Institutional affiliation as mentioned in the publication
Use of sugarcane industrial by- products for improving sugarcane productivi ty and soil health	Dotaniya, M.L., Datta, S.C., Biswas, D.R., Dotaniya, C.K., Meena, B.L., Raje ndiran, S., Regar, K.L., Lata, M.	Internat ional Journal of Recycling of Organic Waste in A griculture	2016	45	104	ICAR- IARI
Genomic selection in the era of next generation sequencing for complex traits in plant breeding	Bhat, J.A., Ali, S., Salgotra, R.K., Mir, Z.A., Dutta, S., Jadon, V., Tyagi, A., Mushtaq, M., Jain, N., Singh, P.K., Singh, G.P., Prabhu, K.V.	Frontiers in Genetics	2016	45	103	ICAR- IARI
Long term effect of conservati on agricul ture in maize rotations on total organic carbon,	Parihar, C.M., Yadav, M.R., Jat, S.L., Singh, A.K., Kumar, B., Pradhan, S., Chakra borty, D.,	Soil and Tillage Research	2016	45	93	ICAR- IARI

physical and biological properties of a sandy loam soil in north- western In do- Gangetic Plains	Jat, M.L., Jat, R.K., Saharawat, Y.S., Yadav, O.P.					
Molecular diversity and multif arious plant growth promoting attributes of Bacilli associated with wheat (Triticum aestivum L.) rhizos phere from six diverse ag ro-ecologi cal zones of India	Verma, P., Yadav, A.N., Khannam, K.S., Kumar, S., Saxena, A.K., Suman, A.	Journal of Basic M icrobiolog y	2016	45	92	ICAR- IARI
Mapping QTLs for Salt Tolerance in Rice (Oryza sativa L.) by Bulked Segregant Analysis of Recombi nant Inbred Lines Using 50K SNP Chip	Tiwari, S., Sl, K., Kumar, V., Singh, B., Rao, A.R., Sv, A.M., Rai, V., Singh, A.K., Singh, N.K.	PLOS ONE	2016	45	86	ICAR- IARI
High salinity induces different oxidative stress and antioxidan t responses	AbdElgaw ad, H., Zinta, G., Hegab, M.M., Pandey, R., Asard, H., Abuelsoud,	Frontiers in Plant Science	2016	45	241	ICAR- IARI

in maize seedlings organs	W.					
Similar estimates of tempera ture impacts on global wheat yield by three inde pendent methods	Liu, B., Asseng, S., Müller, C., Ewert, F., Elliott, J., Lobell, D.B., Martre, P., Ruane, A.C., Wallach, D., Jones, J.W., Rose nzweig, C., Aggarwal, P.K., Alderman, P.D., Anothai, J., Basso, B., Biernath, C., Cammarano, D., Challinor, A., Deryng, D.,	Nature Climate Change	2016	45	225	ICAR- IARI
Global nitrogen budgets in cereals: A 50-year assessment for maize, rice, and wheat production systems	Ladha, J.K., Tiro l-Padre, A., Reddy, C.K., Cassman, K.G., Verma, S., Powlson, D.S., Van Kessel, C., De Richter, D.B., Chak raborty, D., Pathak, H.	Scientific Reports	2016	4 5	224	ICAR- IARI
Methane production , oxidation	Malyan, S.K., Bhatia, A., Kumar,	Science of the Total Envi ronment	2016	45	108	ICAR- IARI

un in mp ev of	nderstand ng and co	Singh, R., Kumar, S.S., Tomer, R., Kumar, O.,					
en ai bi pr fi		Singh, R., Srivas tava, M., Shukla, A.	Renewable and Sustai nable Energy Reviews	2016	45	108	ICAR- IARI

3.4.7 – Faculty participation in Seminars/Conferences and Symposia during the year

Number of Faculty	International	National	State	Local
Attended/Semi nars/Workshops	162	367	11	36
Presented papers	129	249	6	12
Resource persons	50	166	21	80
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3.5 - Consultancy

3.5.1 – Revenue generated from Consultancy during the year

Name of the Consultan(s) department	Name of consultancy project	Consulting/Sponsoring Agency	Revenue generated (amount in rupees)
Environmental Sciences	Simulating yield of major crops in Punjab and Himachal Pradesh and Demonstrating Crops Model	The Energy and Resources Institute	182400
IARI RS Wellington	Conducting Grow Out Test and screening of wheat breeding lines	Ganga Kaveri Seeds Pvt. Ltd, Hyderabad	454000
IARI RS Wellington	Offseason Crop of barley for generated advancement and selection	M/s Barely (RD) Sub Miller India Ltd., RBL, Neemarana	52300

Dr. Uma Rao, Head, Division of Microbiology, IARI Dr. Yashbir Singh Shivay, Principal Scientist, Division of Agronomy Dr. Vinay Kalia, Principal Scientist, Division of Entomology Silvation of Microbiology of Entomology Dr. Vinay Kalia, Principal Scientist, Division of Entomology	Socio-economic act of Farmers' aining Centres TC) of Punjab ational Bank (PNB)". "A novel micro A-induced gene encing strategy development of st and disease lerant cotton plants"	Punjab National Bank Farmer's Welfare Trust, Bhikhaji Cama Place, New Delhi. BIRAC	380570 34976000
Head, Division of Nematology Dr. K. Annpurna, Head, Division of Microbiology, IARI Fou at SVP Ag Dr. Yashbir Singh Shivay, Principal Scientist, Division of Agronomy Principal Scientist, Division of Entomology	A-induced gene encing strategy development of st and disease lerant cotton plants"	BIRAC	34976000
Head, Division of Midrobiology, IARI Found at SVP Ag Dr. Yashbir Singh Shivay, Principal Scientist, Division of Agronomy efficient in Scientist, Division of Entomology			
Shivay, Principal cal Scientist, Division of Agronomy efficient in Dr. Vinay Kalia, Principal Scientist, Division of Entomology	Setting up of a crobiological ting Laboratory r APEDA under asmati Export Development ndation (BEDF) the campus of University of riculture and Technology, odipuram, UP"	APEDA (Agricultural Processed Food Production Export Development Authority)	583395
Principal Sp. Scientist, Division to: of Entomology	"Evaluation of cium cyanamide an effective nitrogen use ciency enhancer rice and wheat crops".	Associates Pvt. Ltd., Faridabad	1168819
	"Evaluation of inetoram 12 SC kicity on Pink bolloworm Pectinophora	Dow AgroScience India Pvt. Ltd. Mumbai	2543595
Dr. S. Chakravorty, Senior system about the system of the	sypiella under controlled condition"	IIL Foundation	100219

3.5.2 – Revenue generated from Corporate Training by the institution during the year

_					
	Name of the	Title of the	Agency seeking /	Revenue generated	Number of trainees
	Consultan(s)	programme	training	(amount in rupees)	

department				
CATAT, IARI, New Delhi	Improved agricultural practices for higher productivity income, 28th Nov2nd Dec. 2016	ATMA Nagaur, Rajasthan	18750	30
CATAT, IARI, New Delhi	Improved agricultural practices for higher productivity income, Sept 19-26, 2016	ATMA, Saran, Bihar	20500	30
Division of Soil Science and Agricultural Chemistry, IARI, New Delhi	Agripreneurship Development Programme on "Soil fertility evaluation and nutrient management for enhancing crop productivity and soil health", 15-20 November 2016	Mahindra Agro	225000	21
Division of Soil Science and Agricultural Chemistry, IARI, New Delhi	Agripreneurship Development Programme on "Soil fertility evaluation and nutrient management for enhancing crop productivity and soil health", 21-26 November 2016	Mahindra Agro	225000	23
Division of Soil Science and Agricultural Chemistry, IARI, New Delhi	13th Advanced Level Training on Soil Testing, Plant Analysis and Water Quality Assessment, 29 Nov. to 19 Dec. 2016 (3 weeks)	Self- sponsored	357500	15
Division of Soil Science and Agricultural Chemistry,	ICAR- Sponsored HRD Training on "In strumentation Techniques for	ICAR- Sponsored	256750	21

IARI, New Delhi	Analysis of Soil, Plant and Water", 13-22 February 2017			
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3.6 - Extension Activities

3.6.1 – Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

Title of the activities	Organising unit/agency/ collaborating agency	Number of teachers participated in such activities	Number of students participated in such activities	
No Data Entered/Not Applicable !!!				
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3.6.2 – Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the activity	Award/Recognition	Awarding Bodies	Number of students Benefited
Award	Hari Om Ashram Trust Award for biennium 2014-15 in Social Science of ICAR	Govt. of India	Nill
No file uploaded.			

3.6.3 – Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the scheme	Organising unit/Agen cy/collaborating agency	Name of the activity	Number of teachers participated in such activites	Number of students participated in such activites
Swach Bharat Abhiyan	Master of Halls of Residence, IARI	Swachata Abhiyan	9	998
Mera Gaon Mera Gaurav	Different Divisions of IARI	Awareness creation about schemes of government of India, latest technologies developed by IARI, etc	506	100
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3.7 - Collaborations

3.7.1 - Number of Collaborative activities for research, faculty exchange, student exchange during the year

Nature of activity	Participant	Source of financial support	Duration
NEWS India-UK Fellowship, UK	Dr G.K. Jha	UK	30
Molecular dissection of black leg resistance in	Dr Sabina Islam	Australia	270

Brassica rapus L.			
18 International Conference on Wastewater	Dr DS Gurjar	Brazil	5
Workshop on Agricultural Insurance Systems, Philippines	Dr MS Nain	IARI	30
Conference on State-of the Art Technologies to Drive Agricultural Productivity in the Next Quarter of the Century organized by Asian Productivity Organisation, Tokyo, Japan	Dr Rabi Narayan Sahoo	APO and NPC, New Delhi	3
Workshop on "Technological Innovations and Agricultural Micro insurances, IFPRI, Washington DC, USA	Dr Rabi Narayan Sahoo	IFPRI, Washington DC, USA	2
Meeting on Indo- US funded project under Indo-US Knowledge Initiative, University of Nebraska, Lincoln, USA	Dr Rabi Narayan Sahoo	University of Nebraska	4
Analysis of existing long term Philippines	Dr Debashis Chakraborty	IRRI, Philippines	16
Experiments and Designing of 2016 IRRI, Philippines new generation LTEs in rice-based system	Dr Debashis Chakraborty	Australia Award Fellowship Dept of Foreign Affairs and Trade	14
Improving methods for estimation of crop area, yield and production under mixed, repeated and continuous cropping" and brief session on measuring vegetable production	Dr UC Sud	FAO	2
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3.7.2 – Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration From	Duration To	Participant
Teaching Research	PG outreach programme	M/s Jain Irrigation Systems Pvt Ltd, Jalgaon, Maharashtra	25/04/2013	31/12/2018	Nill
Collaborat ive research work	Chemical, structural and functional c haracterizat ion of identified anti-tick lead phytoch emicals and optimization of delivery matrix for effective application of natural formulation for the control of acaricide resistant ticks	ICAR- IVARI, Izatnagar CSIR-NBRI, Lucknow ICAR- IARI, New Delhi ICAR- DMAPR, Anand COVAS, Pookode	01/01/2017	31/12/2018	IVRI, Izatnagar Dr. Srikanta Ghosh, Dr. B.C. Saravanan, Dr. Ravi Kumar, Dr. S. Dey, NBRI, Lucknow Dr. AKS Rawat, Dr. Sharad Srivastav, Dr. M. M. Pandey IARI, New Delhi Dr. Rajesh Kumar, Dr. Suman Gupta DMAPR, Anand Dr. Satyanshu Kumar CVAS, Pook
Research Project	"Residues of Zineb in tobacco leaf and cropped soil at harvest following application of Zineb 75 WP product"	M/S Indofil Industries Limited, Mumbai	01/01/2014	31/12/2018	Tirthankar Banerjee, PI
Teaching Research	PG outreach programme	Indian Institute of Horticultura 1 Research, Hessaraghatt a, Lakepost,	23/12/2010	31/12/2018	Students= 14

		Bangalore 560089			
Research Project	Multilocat ional field trials for the study of Leaching potential of atrazine in soil under m aize/sugarca ne cultivation under different agroclimatic regions in India-Rahuri and Bangalore.	M/S Syngenta India Limited, Mumbai	01/01/2014	31/12/2017	Tirthankar Banerjee, Co- PI
Research Project	Terminal residues of Hexaconazole and Mancozeb in rice straw, husk, grains and cropped soil at harvest following application of combination product coded as 6.3.1 ICF-310.	M/S Indofil Industries Limited, Mumbai	01/01/2014	31/12/2018	Tirthankar Banerjee, Co- PI
Teaching Research	PG outreach programme	CIPHET, Ludhiana, Pu njab-141004	04/12/2010	31/12/2018	Dr Deepak Raj Rai Dr Shyam Narayan Jha
Teaching Research	PG outreach programme	CIAE, Nabi Bagh, Bhopal, Madhya Pradesh, India-462038	10/12/2010	31/12/2018	Students 8
Teaching Research	PG outreach programme	DWR, Karnal, Haryana 132001	12/11/2011	31/12/2018	Dr RS Chhokar Dr Subhash Chander
Teaching Research	PG outreach programme	DSR, Hyderabad	08/10/2014	31/12/2018	Dr Hari Prasanna Dr IV Patil Dr Sujay Rakshit

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3.7.3 – MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose/Activities	Number of students/teachers participated under MoUs
Mangalam Agrotech, Gat No790, At/post- Jarakarwadi, Tal- Ambegan, Dist- Pune, Maharastra-412406	02/08/2016	Compost Inaculant	2
M/s Blue Camel Seed Farm	15/09/2016	HD 3086	22
M/s Ananya Seed Pvt. Ltd.,832-26th, Main Sector-1, HSR Layout, Bangalore, Karnataka- 560102	01/09/2016	Vegetable varieties Basket	15
M/s A-One Seeds	21/09/2016	HD-3086	22
M/s Malwa Hybrid Seeds Company	26/09/2016	HD-3086	22
NAM Fellowship	28/03/2016	Exploration of Gut microflora in white grubs for pest control	1
Nagarjuna Agroo Chemicals Pvt Ltd, G-01,6-3-12-18/6/2, Street No6, Spring Heaven, Uma Nagar, Begumpet, Hyderabad,AP-500016	25/05/2016	STFR Meter Improved (Extended MoU)	6
Plasti Surge Pvt Ltd,Siddhart Bhawan, Morshi Road, Amravati, Maharastra-444601	09/05/2016	STFR Meter Improved (Extended MoU)	6
Om Agro Organics	28/06/2016	STFR Meter Improved (Extended MoU)	6
SUGWAY AGRIBIOTECH RESEARCH FOUNDATION	15/06/2016	STFR Meter Improved (Extended MoU)	6
	View	v File	

CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES

4.1 - Physical Facilities

4.1.1 – Budget allocation, excluding salary for infrastructure augmentation during the year

Budget allocated for infrastructure augmentation	Budget utilized for infrastructure development

4.1.2 - Details of augmentation in infrastructure facilities during the year

Facilities	Existing or Newly Added
Campus Area	Existing
Class rooms	Existing
Laboratories	Existing
Seminar Halls	Existing
Classrooms with LCD facilities	Newly Added
Seminar halls with ICT facilities	Newly Added
Value of the equipment purchased during the year (rs. in lakhs)	Newly Added
Number of important equipments purchased (Greater than 1-0 lakh) during the current year	Newly Added
Classrooms with Wi-Fi OR LAN	Newly Added
No file	uploaded.

4.2 - Library as a Learning Resource

4.2.1 – Library is automated {Integrated Library Management System (ILMS)}

Name of the ILMS software			Year of automation
кона	Fully	16X	2012

4.2.2 – Library Services

	·						
Library Service Type	Existing		Newly Added		Total		
Text Books	134036	Nill	600	1798580	134636	1798580	
Reference Books	3512	Nill	90	38553	3602	38553	
e-Books	Nill	Nill	56	570632	56	570632	
Journals	129284	Nill	245	20782148	129529	20782148	
e- Journals	58	Nill	16	Nill	74	Nill	
CD & Video	15413	Nill	1040	Nill	16453	Nill	
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4.2.3 – E-content developed by teachers such as: e-PG- Pathshala, CEC (under e-PG- Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & Eamp; institutional (Learning Management System (LMS) etc

Name of the Teacher	Name of the Module	Platform on which module is developed	Date of launching e- content			
Sandeep Kumar e-pathshala		e-pathshala, MHRD, GOI	Nill			
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4.3 - IT Infrastructure

4.3.1 – Technology Upgradation (overall)

Туре	Total Co mputers	Computer Lab	Internet	Browsing centers	Computer Centers	Office	Departme nts	Available Bandwidt h (MBPS/ GBPS)	Others
Existin g	2900	90	2900	0	120	1190	1500	1	0
Added	200	20	200	0	0	70	110	0	0
Total	3100	110	3100	0	120	1260	1610	1	0

4.3.2 - Bandwidth available of internet connection in the Institution (Leased line)

1 MBPS/ GBPS

4.3.3 - Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility
No Data Entered/No	ot Applicable !!!

4.4 - Maintenance of Campus Infrastructure

4.4.1 – Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

Assigned Budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurredon maintenance of physical facilites
238	238	1370	1370

4.4.2 – Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website, provide link)

The institute has a well-oiled system in place for the maintenance of the physical, academic and support facilities built in the campus over the years. Adequate budgetary provisions are made during allocation of the annual budget for undertaking this all-important work. The cleanliness in each division of the institute is maintained on daily basis by the permanent skilled supporting staff members along with the contractual staff, specifically hired for the aforementioned purpose, under the guidance and supervision of a designated building in-charge in each division. The construction repair and electrical maintenance work in the institute is undertaken by CPWD. Besides, there is a separate unit viz. Farm, Horticulture and Landscape Operation Service Unit (FHLOSU) in the institute, which not only looks after the day-to-day repair and maintenance of the imported and indigenous machines but also supervises all the landscaping work, maintenance of gardens/lawns of the Institute and its residential areas. Every department maintains a stock register for the available equipments. Proper audit of the stock takes place at the end of every year and reports submitted for future records and references. The maintenance of equipments/instruments housed in different divisions is undertaken by the concerned HOD as per the laid down General Financial Rules (GFR). The annual Maintenance Contract (AMC) of all costly and sensitive instruments/equipments in these divisions is obtained for their uninterrupted and hassle-free use by the beneficiaries. The log book for the use of all the instruments is properly maintained. The IT equipment for providing Internet services throughout the campus is also kept under AMC. The servers and data centre equipments are

managed by System Administrator. The LAN maintenance is under the Network Administrator. The website and online application activities are managed by Website administrator. A senior faculty member has been appointed as an Incharge of the central library, who along with the Librarian, technical officers and other supporting staff manages its day-to-day affairs. At end of the Academic year stock verification is done and librarian prepares the report. Procurement of books as per the requirement is done through a committee by inviting the requirement of books from various departments which is then processed following the standard procurement procedure. Needless to mention that during the execution of all the purchases, the Government of India (GOI) rules, regulations and guidelines are followed mutatis mutandis.

https://www.iari.res.in/

CRITERION V – STUDENT SUPPORT AND PROGRESSION

5.1 - Student Support

5.1.1 - Scholarships and Financial Support

	Name/Title of the scheme	Number of students	Amount in Rupees
Financial Support from institution	IARI Fellowship	279	30407580
Financial Support from Other Sources			
a) National	SRF-ICAR, DBT, DST, CSIR, National Fellowship (SC), NET-JRF	65	15378000
b)International	ICAR- International Fellowship, India Africa Forum Summit, General Scholarship Scheme, Special Scholarship Scheme for Afghan Nationals, India Afghanistan Fellowship Programme, Commonwealth Scholarship Scheme, Nepal Aid Fund Scholarship Scheme	12	1489320

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5.1.2 – Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,

Name of the capability enhancement scheme	Date of implemetation	Number of students enrolled	Agencies involved
Agronomy of Rainy Season Crops (AGR 001)	09/07/2010	5	Department of Agronomy
Agronomy of Winter season Crops (AGR 002)	09/07/2010	5	Division of Agronomy

Agronomy of summer season crops (AGR 003)	09/07/2010	5	Division of Agronomy		
Soil and Environment (AGR 004)	09/07/2018	5	Division of SSAC		
Major Pests of Crops and their Management (AGR 005)	09/07/2010	5	Division of Entomology		
Crop morphology and physiology (AGR 006)	09/07/2010	5	Division of Plant Physiology		
Principles of Horticultural Crops (AGR 007)	09/07/2010	5	Division of Horticulture		
On-farm Education and Visits to different Institutions (AGR 008)	09/07/2010	5	Division of Agricultural Extension		
Principles of Post Harvest Technology (AGR 009)	09/07/2010	5	Division of Post Harvest Technology		
Elements of Genetics and Plant Breeding (AGR 010)	09/07/2010	5	Division of Genetics		
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5.1.3 – Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

Year	Name of the scheme	Number of benefited students for competitive examination	Number of benefited students by career counseling activities	Number of students who have passedin the comp. exam	Number of studentsp placed
2016	Guidance for Competitive exams and career counseling	998	998	163	163
No file uploaded.					

5.1.4 – Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	Number of grievances redressed	Avg. number of days for grievance redressal
2	2	510

5.2 - Student Progression

5.2.1 - Details of campus placement during the year

On campus			Off campus		
Nameof Number of Number of organizations students stduents placed visited participated		Nameof organizations visited	Number of students participated	Number of stduents placed	
No Data Entered/Not Applicable !!!					
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5.2.2 - Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Depratment graduated from	Name of institution joined	Name of programme admitted to
2016	100	MSc (Agri)	Agronomy	IARI	PhD
2016	100	MSc (Agri)	Biochemistry	IARI	PhD
2016	80	MSc (Agri)	Bioinforma tics	IARI	PhD
2016	100	MSc (Agri)	Computer Application	IARI	PhD
2016	83	MSc (Agri)	Environmen tal Sciences	IARI	PhD
2016	83	MSc (Agri)	Agricultural Chemicals	IARI	PhD
2016	100	MSc (Agri)	Agricultural Economics	IARI	PhD
2016	100	MSc (Agri)	Agricultural Extension	IARI	PhD
2016	100	MSc (Agri)	Agricultural Physics	IARI	PhD
2016	100	MSc (Agri)	Agricultural Statistics	IARI	PhD
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5.2.3 – Students qualifying in state/ national/ international level examinations during the year (eg:NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	Number of students selected/ qualifying		
NET	31		
Any Other	163		
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5.2.4 - Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Number of Participants

Annual Sports Meet of "Tarang2016-17" Organised by PGSSU during March 10-12, 2017	Institute Level	90		
Annual cultural meet	Institute level	80		
Quiz, Declamation, Debate extempore, essay writing, etc	Institute level	52		
Organised essay and debate competition on the occasion of National Agricultural Education Day	Institute level	50		
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5.3 – Student Participation and Activities

5.3.1 – Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/medal	National/ Internaional	Number of awards for Sports	Number of awards for Cultural	Student ID number	Name of the student	
2017	Gold Medal	National	Nill	1	20786 11297	Mr Rohit Kundu Mr Amit Ahuja	
2017	Gold Medal	National	Nill	1	Nill	Team	
1	No file upleaded						

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5.3.2 - Activity of Student Council & presentation of students on academic & amp; administrative bodies/committees of the institution (maximum 500 words)

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.

5.4 – Alumni Engagement

5.4.1 – Whether the institution has registered Alumni Association?

Yes

IARI has a registered Alumni Association, which has been established 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. Alumni Directory is regularly updated to keep the contact alive with all the IARIians.

5.4.2 – No. of registered Alumni:

9298

5.4.3 - Alumni contribution during the year (in Rupees) :

No Data Entered/Not Applicable !!!

5.4.4 - Meetings/activities organized by Alumni Association:

Alumni meet was organized on the day of convocation (9th Feb 2017) and the alumni are invited to participate and give their feedback.

CRITERION VI – GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 – Institutional Vision and Leadership

6.1.1 – Mention two practices of decentralization and participative management during the last year (maximum 500 words)

The institute follows a professional approach in managing the various academic and administrative activities by way of decentralization and participative management. The Director of the institute gives adequate budgetary allocation

of funds to the Joint Directors and Heads of Divisions (HODs) along with the generous 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. Monthly meetings of the HODs are conducted by the Director to review the progress made and to chart out the future course of action. Similarly, at the divisional level a Divisional Budget and Research Committee (DBRC) is constituted by including members from different categories of scientists as well as an Administrative Officer. The Chairman of DBRC is head of the Division. The major issues pertaining to equitable and judicious use of allocated funds as well as strategies for enhancing the impact of the ongoing research activities in the division, new programmes to be undertaken and ways to secure additional funds from external sources are thoroughly discussed in the regular meetings of the DBRC and recommendations sent to the Director, IARI for further approval. For an effective efficient implementation of the academic vision of the institute and for seamless discharge of the Institute's mandate in this regard, Board of Studies (BOS) is constituted in each division with members from different strata of scientists. The chairperson of BOS is the Professor of the division and it also includes one Students' Representative. All the major decisions for maintaining, nourishing and improving the teaching standards in the division are 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 utilize funds allocated for strengthening PG activities in the division as per the GFR. The four standing Committees, IQAC under the guidance of competent authorities are involved in defining policies procedures, framing guidelines and rules regulations pertaining to admission, examination, discipline, grievance, support services, finance etc

6.1.2 - Does the institution have a Management Information System (MIS)?

Yes

6.2 - Strategy Development and Deployment

6.2.1 - Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

Strategy Type	Details
Curriculum Development	• Institute follows the course curriculum as recommended by the ICAR-BSMA (Broad Subject Matter Area) committees, which is being implemented in the teaching programme of 26 disciplines. The curriculum is in line with international standards and covers frontier areas of science
Teaching and Learning	• Periodic monitoring of the academic progress is done by Dean Joint Director (Edn.) during his/her meetings with the Professors of each teaching discipline. Strict compliance of the academic regulations and calendar time lines are followed right from the admission to convocation ceremony. The PG School has developed PGS online management system for paperless work for academic activities in all the 26 Disciplines. Online submission of all the proposals of students viz., student credentials, attendance, trimester grades, progress

report, PPWs, ORWs, qualifying exam and thesis submission proposals, e-thesis etc is done. Frequent visits of Dean and Joint Director (Education) is made in the Divisions and interactions are done with students and faculty. Compulsory meeting of student Advisory Committee at least once during each trimester is done. • External examiners are invited for the Qualifying examination of PhD students Board of Studies meeting in each discipline are held atleast one in each quarter Examination and Evaluation For Qualifying exam and Thesis viva voce, expert is called from outside IARI and analytical questions are asked. During each trimester, students performance is evaluated based on quizzes, Mind term and Final examination is done. Practical exams are conducted separately. Research and Development • Identification of research topics is done by the faculty and submitted to BOS of Disciplines, six months in advance to admission of students. HoD, Professors and all the faculty members are involved in deciding the advisory committee of students and research topics • Allotment of Chairperson is based on students merit and their preference for thesis research topics. Strict monitoring of students research progress by advisory Committee, presentation before faculty and BOS members is done meeting. Modification/ corrective measures if any in the approved research work with the permission of the PG school are taken. External evaluation of thesis is done. PhD thesis is evaluated by two external experts not below the rank of Professor M.Sc/ M.Tech thesis is evaluated by one external examine. Incorporation of all the suggestions/ comments as suggested by the external examiners in the final version of the thesis is done. For PhD students, publication of two research papers (one published another communicated) in journal with NAAS score >5.0 is compulsory. Library, ICT and Physical Online journals and books are Infrastructure / Instrumentation subscribed, which are accessible to all the students. The internet and intranet and Wi-Fi connectivity has been provided at all the divisions and hostels. The Institute established a National Phytotron Facility in 1997, to

study the live responses of plants under controlled conditions. There is a well-equipped Pesticide Referral Laboratory to analyze referred samples for pesticides. IARI has Scanning Electron Microscope Facility (SEMF) at Division of Entomology and Farm Machinery Testing Centre, Division of Agricultural Engineering. The ASRB Online Examination Centre has being established at IARI. Through CeRA (Consortium for eResources in Agriculture), the institute provides online access of approx. 2380 e-Journals on LAN to scientific community. Prof. M S Swaminathan Library has created Online Public Access Catalogue (OPAC) of resources of 36 libraries with "Online Computer Library Center" (OCLC) partnership. The e-Language lab has been established with seating capacity of about 50 participants to facilitate language classes for foreign students. There is a Central Laboratory for Soil and Plant Analysis at Division of Soil Science and Agricultural Chemistry which provides services to the scientists, students and farmers.

Human Resource Management

• HRD cell of IARI get the training plan for all staff from each discipline. Training programmes are organized at Institute and staff is sent for participation at National and International level. • Scientists and students are encouraged to participate in training both at national and international level through fellowships. • Grant is providing to faculty and students for attending various workshops/symposia/conferences etc. to broaden their horizon, skills and to foster new linkages. • In APAR the reporting officer identify the training needs of the scientists and faculty is sent for training accordingly.

Industry Interaction / Collaboration

IARI students are encouraged to apply for PM fellowship in which the industry sponsors certain percent of Fellowship and student research is decided based on the need of the industry.

Consultancy/ Contract research projects are being taken up by the scientists.

BIRAC/DST.DBT projects involving industry is taken up by scientists.

Students are encouraged to go for

	<pre>internship/ short course in Industry. IARI technology is commercialized to private firms through ZTM BPD Unit</pre>
Admission of Students	• The Board of Studies (BoS) in each Discipline prepares the requirement of number of M.Sc. and PhD seats and submit to PG School. Hereafter, approval of Academic Council is obtained. The total seat requirement is communicated to the Education Division of ICAR. The Institute admits students to the Post Graduate School under five separate streams as indicated below: (A) Open competition (B) Faculty Upgradation Scheme (FUS) (C) Departmental stream (Scientific and Technical) (D) ICAR in-service nominees (E) International students. M.Sc. and M.Tech. degree courses: Entrance examination for admission to M.Sc. and M.Tech. degree courses is undertaken by the Education Division of ICAR and on the basis of merit, the ICAR finalizes the admission for 23 M.Sc. and one M.Tech. degree courses at IARI. Ph.D. degree courses: Admission to the Ph.D. courses in 22 disciplines is based on performance of candidates in the written entrance examination (70
	weightage) academic score (20 weightage) interview (10 weightage).

6.2.2 – Implementation of e-governance in areas of operations:

E-governace area	Details
Planning and Development	IARI is using the ERP solution developed by IASRI for ICAR namely "Management Information Services (MIS) including Financial Management System (FMS)" (MIS FMS). The system has provisions for: Project management: Scope for Project information, costing, project documents, contract management and grants Material management: Solutions for Purchase and inventory managemnet
Administration	e-office is being implemented for the purpose management of office files comprising of file movement and administrative approval e-Tender is followed for purchase of scientific equipments with amount beyond Rs 1 crores
Finance and Accounts	IARI is using the ERP solution developed by IASRI for ICAR namely "Management Information Services (MIS) including Financial Management System

	(FMS)" (MIS FMS). The system has provisions for: Financial Management: Solutions for general ledger, account payable, account receivable, cash management, fixed assets management, budget management and grants Payroll system: Salary, GPF, Pension payment, retirement benefit calculation and income tax calculation, etc.
Student Admission and Support	PG School, IARI Management System for online management of academic activity of students. The system is available to students, faculty members, scientists and administrative staff of PG School, IARI. It has following sub modules (a) Course management (b) Student management (c) Faculty management (d) Administrative management (e) e- Learning (f) Student research management
Examination	"PG School, IARI Management System" for online management of academic activity of students. The system is available to students, faculty members, scientists and administrative staff of PG School, IARI. The students course grades are uploaded online into the PG School, IARI Management System by the Course leader which is approved by Professor and Dean The proforma for taking up qualifying examination submission of thesis is submitted online in which the Chairman, professor and HoD provide the names of external examiners which is finally selected by the Dean The results of qualifying examination and the thesis is submitted online into the "PG School, IARI Management System"

6.3 – Faculty Empowerment Strategies

6.3.1 – Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Year	Name of Teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2016	Madhubala Thakre	7th Indian Horticulture Congress- An International Meet for Doubling farmers income through horticulture,	Indian Society of Horticulture	7000

		ICAR- Indian Agricultural Research Institute, Pusa Campus, New Delhi, 15-18, November, 2016,		
2016	Dr Amit Ku Goswami	7th Indian Horticulture Congress- An International Meet for Doubling farmers income through horticulture, ICAR- Indian Agricultural Research Institute, Pusa Campus, New Delhi, 15-18, November, 2016,	Indian Society of Horticulture	7000
2017	Dr Manish Srivastava	7th Indian Horticulture Congress- An International Meet for Doubling farmers income through horticulture, ICAR- Indian Agricultural Research Institute, Pusa Campus, New Delhi, 15-18, November, 2016,	Indian Society of Horticulture	7000
2016	Dr Chavlesh Kumar	7th Indian Horticulture Congress- An International Meet for Doubling farmers income through horticulture, ICAR- Indian Agricultural Research Institute, Pusa Campus, New Delhi, 15-18, November, 2016,	Indian Society of Horticulture	7000
2016	Dr Ananta	3rd	The Society	12500

	Vashisth	International conference on Agriculture, Horticulture Plant Science, held during 25-26, June, 2016 at New Delhi.	of Tropical Agriculture	
2016	Dr Ananta Vashisth	4th International Agronomy Congress, held during 22-26 November, 2016 at IARI New Delhi.	Indian Society of Agronomy	10000
2016	Dr K.K. Bandyopadhyay	4th International Agronomy Congress, held during 22-26 November, 2016 at IARI New Delhi.	Indian Society of Agronomy	10000
2016	Aditi Kundu	Agrochemicals Research and Education in India: Appraisal and Road Map for Future, November 15-17, 2016	Society of Pesticide Science (SPS), India	6000
2016	A Mandal	National Symposium on Agrochemicals Research and Education in India: Appraisal and Road Map for Future, November 15-17, 2016, ICAR- IARI, New Delhi.	SPS India	3000
2016	Shiva Dhar and A.K. Vyas.	System of Wheat Intensification (SWI): An emerging innovative system of wheat cultivation for higher yield	International Agronomy Congress on Agronomy	8000

and sustainable				
soil health.				
Oral				
Presentation in				
4th				
International				
Agronomy				
Congress on				
Agronomy for				
Sustainable				
Management of				
Natural Resourc				
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6.3.2 – Number of professional development / administrative training programmes organized by the University for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	From date	To Date	Number of participants (Teaching staff)	Number of participants (non-teaching staff)
2016	Workshop on relevance of agroche micals research in the context of context of climate change	Nill	24/05/2016	24/05/2016	15	Nill
2016	Functional Analysis of Pathoge nicity genes of Plant Pathogens (CAFT)	Nill	02/01/2016	22/01/2016	16	Nill
2016	Marker free Trans genics and Methods of Transgene Detection	Nill	01/02/2016	21/02/2016	21	Nill
2016	Extrusion processing - Technology and Business D	Nill	22/02/2016	24/02/2016	20	Nill

2016 Developm ent of Functional ingredient s for extrusion processing 2016 Developm ent of Healthier baked food products: Fundamenta l and tech nological aspects in food science Technology 2016 Quantita tive techniques for agricu ltural policy research (CAPT) 2016 Gender Analysis and Mainst reaming in Agricultur e 2016 Model training course on participat ory GIS for sustai nable natural 24/02/2016 13/01/2016 21 Nill 24/02/2016 22/01/2016 21 Nill 24/02/2016 22/01/2016 22 Nill 24/02/2016 22/01/2016 22 Nill 24/02/2016 22/01/20		evelopment					
ent of Healthier baked food products: Fundamenta land tech nological aspects in food science Technology 2016 Quantita tive techniques for agricu ltural policy research (CAFT) 2016 Gender Analysis and Mainst reaming in Agricultur e 2016 Model training course on participat ory GIS for sustai nable 03/03/2016 05/03/2016 05/03/2016 40	2016	ent of Functional ingredient s for extrusion	Nill	11/01/2016	13/01/2016	20	Nill
prospects in food science Technology 2016 Quantita tive techniques for agricu ltural policy research (CAFT) 2016 Gender Analysis and Mainst reaming in Agricultur e 2016 Model training course on participat ory GIS for sustai nable 13/05/2016 13/05/2016 13/05/2016 13/05/2016	2016	ent of Healthier baked food products: Fundamenta l and tech nological	Nill	03/03/2016	05/03/2016	50	Nill
tive techniques for agricu ltural policy research (CAFT) 2016 Gender Analysis and Mainst reaming in Agricultur e 2016 Model training course on participat ory GIS for sustai nable	2016	prospects in food science	Nill	13/05/2016	13/05/2016	40	Nill
Analysis and Mainst reaming in Agricultur e 2016 Model training course on participat ory GIS for sustai nable 02/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016 22/01/2016	2016	tive techniques for agricu ltural policy research	Nill	18/02/2016	09/03/2016	21	Nill
training course on participat ory GIS for sustai nable	2016	Analysis and Mainst reaming in Agricultur	Nill	02/01/2016	22/01/2016	22	Nill
resource management View File	2016	training course on participat ory GIS for sustai nable natural resource	Nill		02/03/2016	21	Nill

6.3.3 – No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development	Number of teachers who attended	From Date	To date	Duration
programme				

Workshop on Pulses for Sustainable Agriculture and Human Health at NASC, New Delhi	1	31/05/2016	01/06/2016	2
One month Massive Online Open Course (MOOC) on 'Competency Enhancement in Effective Teaching' organized by National Academy for Agricultural Research Management, Hyderabad	1	18/11/2016	23/11/2016	6
ICT tools in teaching and Developing MOODLE based courses in Microbiology	1	17/06/2016	17/06/2016	1
Advanced Tools and Techniques for Precise Input Application Systems	1	05/01/2016	25/01/2016	21
MOOC course from NAARM on 'Competency Enhancement for effective Teaching	1	18/11/2016	24/12/2016	36
Institute HRD training programme at IMTECH, Chandigarh	1	15/09/2016	14/03/2017	180
Role of scientists in Natural Resources and Environment Management sponsored by DST at IIFM, Bhopal	1	08/02/2016	12/02/2016	4
Two-day training	1	10/03/2016	11/03/2016	2

programme entitled "Radioisotope use and safety" at Nuclear Research Laboratory, ICAR-Indian Agricultural Research Institute, New				
Delhi NGS data analysis workshop organized by BioNivid in Bangalore	1	06/07/2016	09/07/2016	4
Refreshers Course on Agricultural Research Management from 15-26 November, 2016 at NAARM, Hyderabad.	1	15/11/2016	26/11/2016	11
		<u>View File</u>		

6.3.4 - Faculty and Staff recruitment (no. for permanent recruitment):

Teaching		Non-te	aching
Permanent	Full Time	Permanent	Full Time
44	44	4	4

6.3.5 - Welfare schemes for

Teaching	Non-teaching	Students
CGHS provided to all faculty members, Dispensary with dedicated medical officer, Group Life Insurance Scheme is available to all employees	Institute Joint Staff Council (IJSC) Nehru Experimental Centre, Gymnasium	PG School Student Union Gym Sports Ground Dispensary PG School Welfare Fund

6.4 – Financial Management and Resource Mobilization

6.4.1 – Institution conducts internal and external financial audits regularly (with in 100 words each)

The Institution has an established mechanism for conducting 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.

6.4.2 – Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies /individuals	Funds/ Grnats received in Rs.	Purpose			
No Data Entered/Not Applicable !!!					
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6.4.3 – Total corpus fund generated

No Data Entered/Not Applicable !!!

6.5 – Internal Quality Assurance System

6.5.1 - Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	Exte	ernal	Inte	rnal
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	QRT Institute Research Council (IRC II) Institute Research Council I Research Advisory Council (RAC) Are mechanism to monitor the research and teaching activities of the institute and recommendations are compiled with	Yes	Board of Studies and Divisional Budget and Research Committee (IRC I, IRC II RAC) monitors and guides day to day research and teaching activities of the Divisions, respectively
Administrative	Yes	Audit Working in Hindi is audited by the Hindi Committee	Yes	Annual stores verification by committee constituted for the purpose Audit department audits the financial activities Working in Hindi is audited by the committee constituted for the purpose

6.5.2 – What efforts are made by the University to promote autonomy in the affiliated/constituent colleges? (if applicable)

• Funds have been provided to IASRI, NBPGR and NIPB, New Delhi and necessary infrastructure support is extended to IIHR, Bengaluru and CIAE, Bhopal for successful implementation of teaching programmes at these centres. The students admitted at these centres have full access to the PGS online management system for various teaching related activities. The students from these institutes can visit IARI and are provided access to different laboratories for undertaking any experiment committed in their thesis work.

6.5.3 – Activities and support from the Parent – Teacher Association (at least three)

• Parents are invited during Convocation and they are encouraged to give their feedback during the farewell programme organized in each Divisions for outgoing students. The students are felicitated for their academic and other achievements. Parents help in the mentoring and counselling of their wards as and when need arises

6.5.4 – Development programmes for support staff (at least three)

- Training programme for skill development are organized for supporting staff.
- Supporting staffs along with other staffs participate regularly in inter institutional sports activities organised by an institute under the administrative control of ICAR. New Pusa Recreation Centre (NPRC) has excellent facilities for indoor and outdoor games for support staff. The Centre helps the staff in personality development and maintaining physical fitness. Support staff can avail the facilities available in the IARI Dispensary. Support staff has representatives in IJSC who help in implementation of institute welfare schemes.

6.5.5 – Post Accreditation initiative(s) (mention at least three)

- The courses have been revised following the 5th Deans Committee Report BSMA (Broad Subject Matter Area) guidelines The outreach programme has been strengthened by recognising more institutes as partners in academic activities
- New courses have been added to broaden the knowledge of students with a view to inculcate soft skills The students thesis research is aligned with the research programme of Divisions so as to compliment each others' efforts

6.5.6 – Internal Quality Assurance System Details

a) Submission of Data for AISHE portal	Yes
b)Participation in NIRF	Yes
c)ISO certification	Yes
d)NBA or any other quality audit	Yes

6.5.7 - Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting IQAC	Duration From	Duration To	Number of participants
2016	Research Advisory Committee	23/12/2016	23/11/2015	23/12/2016	40
2016	Academic Council Meeting	04/02/2016	Nill	04/02/2016	46
2016	Academic Council Meeting	20/05/2016	04/02/2016	20/05/2016	41
2016	Academic	08/07/2016	20/05/2016	08/07/2016	39

	Council Meeting						
2016	Academic Council Meeting	30/11/2016	08/07/2016	30/11/2016	41		
2016	Extension council meeting	30/06/2016	30/06/2015	30/06/2016	45		
2016	National Institute Ranking Framework (NIRF) data was uploaded on 30.11.2016 and IARI was ranked 23rd among all institutions and 15th among univer sities.	30/11/2016	01/01/2016	01/01/2017	Nill		
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CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

7.1.1 – Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period from	Period To	Number of Participants	
			Female	Male
Preservation of seasonal fruits and vegetables	24/06/2016	30/06/2016	17	1
Value addition in soya bean and Bajra	01/09/2016	08/09/2016	15	0
Value addition under ARYA	13/02/2017	18/02/2017	34	0
Establishment of nutri-farm	07/06/2016	07/06/2016	17	0
Establishment of nutri-farm	08/07/2016	08/07/2016	17	0
Health benefits & Processing of soybean	18/07/2016	18/07/2016	22	0

Health benefits & Processing of soybean	20/08/2016	20/08/2016	15	0
Health benefits & Processing of soybean	14/09/2016	14/09/2016	14	0
Drudgery reduction in farm women	27/08/2016	27/08/2016	16	0
Drudgery reduction in farm women	04/10/2016	04/10/2016	11	0
Nutrition in pregnant women	30/08/2016	30/08/2016	17	0
Dress designing & Tailoring	16/05/2016	01/07/2016	30	0
Dress designing & Tailoring	17/10/2016	03/12/2016	25	0
Preservation of fruits and vegetables	10/05/2016	10/05/2016	24	10
Preservation of fruits and vegetables	18/06/2016	18/06/2016	19	0
Preservation of fruits and vegetables	19/09/2016	19/09/2016	12	0
Preservation of fruits and vegetables	05/10/2016	05/10/2016	12	0
Health benefits Processing of soybean	20/05/2016	20/05/2016	18	0

7.1.2 - Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

Percentage of power requirement of the University met by the renewable energy sources

• Solar panels have been installed on roof tops of Divisions, mela ground, NRL building, etc which generated 2 MW (25) of electricity • 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. • Radiological safely office is operating in the Institute which takes care of the procurement of radioisotopes and biomolecules for research, collection of wastes on regular basis and its disposal in the designated Gamma garden

7.1.3 - Differently abled (Divyangjan) friendliness

|--|

Physical facilities	Yes	10
Provision for lift	Yes	10
Ramp/Rails	Yes	10
Rest Rooms	Yes	10
Scribes for examination	Yes	10

7.1.4 - Inclusion and Situatedness

Year	Number of initiatives to address locational advantages and disadva	Number of initiatives taken to engage with and contribute to	Date	Duration	Name of initiative	Issues addressed	Number of participating students and staff
	ntages	local community					
2016	3304	120	Nill	365	Gaurav	Enhancing farmers knowledge about latest te chnology Dissemina tion of latest te chnology to farmers	530
2016	5	53	Nill	365	IARI post office model: IARI-Post office model: Under IARI-Post office Linkage Extension Model, seeds of IARI varieties were diss eminated. Socioecon omic impact of this model revealed that the informati	Enhanced outreach of frontline extension system, Coverage of remotely located farmers through IARI improved technolog ies	4

					on source preferenc e has been changed from input		
2016	74	4	Nill	365	ARYA	Entrepr eneurship developme nt in rural youth and women under ARYA project for value addition, protected cultivati on, goat farming and mushroom productio n, 70 par ticipants have adopted the vocation and estab lished their own enterpris e	5
2016	253	4	Nill	365	Frontline Demonstra tion programme	varieties and	5

						oilseeds under NMOOP NFSM programme , and Improved varieties of IARI of wheat demonstra tions a	
2016	549	17	Nill	365	IARI- GOS linage programme (17 ICAR institute s and SAUS)	Assessm ent and promotion of IARI technologies, both improved varieties of different crops and NRM technology. Improved productivity of the crops in the farmers fields and higher income.	14
2016	885	29	Nill	365	ICARI- VOS programme	Assessm ent and promotion of IARI technologies, both improved varieties of different crops and NRM technology. Improved productivity of the crops in the farmers fields and higher	14

7.1.5 – Human Values and Professional Ethics Code of conduct (handbooks) for various stakeholders

Title	Date of publication	Follow up(max 100 words)
Post Graduate School Calendar	01/02/2011	The guidelines are being followed and practiced in true spirit for the academic activities of Institute
ICAR. 2006. ICAR Guidelines for Intellectual Property Management and Technology Transfer/ Commercialization. Indian Council of Agricultural Research, New Delhi.	28/09/2006	The guidelines are being followed and practiced in true spirit for commercialization and IP management
ICAR, 2014. ICAR Rules and guidelines for Professional Service Functions (Training, Consultancy, Contract Research and Contract Service, Indian Council	Nill	The guidelines are being followed and practiced in true spirit for training, consultancy and contract research

of Agricultural Research, New Delhi		
Vision Document 2025	Nill	The guidelines are being followed and practiced in true spirit
Vision Document 2050	Nill	The guidelines are being followed and practiced in true spirit
Soil testing services	Nill	The guidelines are being followed and practiced in true spirit for offering the services of the Institute laboratory for testing soil and water quality
Policy decisions and activities undertaken for the benefit of differently abled persons, Published in IARI Annual Report, 2016, Page 180.	14/07/2017	Three per cent of the total number of seats in each scheme of admission open to Indian nationals are reserved for differently abled candidates subject to their being otherwise suitable as per the norms of ICAR/Govt. of India. During the year 2016-17, 10 physically challenged students (4 M.Sc./M.Tech and 6 Ph.D.) were admitted against the reserved seats for differently abled candidates.

7.1.6 – Activities conducted for promotion of universal Values and Ethics

Activity	Duration From	Duration To	Number of participants
Vigilience Awarness Weak	31/10/2016	05/11/2016	1815
Agricultural research, research ethics, rural development programme (PGS 505)	01/01/2016	31/12/2016	126
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	01/01/2016	31/12/2016	1434

were generated. A particular bench m				
Anti-Ragging/ Grievance redressal mechanism:: PG School, IARI, New Delhi has Standing Committee on Students Problems Discipline, Welfare, Board and Residences which considers Complaint s/Grievance of students, if any.	01/01/2016	31/12/2016	1815	
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7.1.7 - Initiatives taken by the institution to make the campus eco-friendly (at least five)

- Water harvesting ponds and recharge wells created for water harvesting and recycling of waste water
- Waste water treatment plant to treat waste water and used for irrigation
 - · Waste paper recycling plant installed to reuse waste papers
- Biomass waste is collected and converted into compost under waste to wealth
 programme at Biomass Utilization Unit
- Institute has developed Pusa decomposer technology for in-situ residue management which is used on the campus and extensively used in Uttar Pradesh,

 Punjab and Haryana states help minimize paddy straw burning.
 - Institute has installed solar panels and generates 2 MW of electricity

7.2 - Best Practices

7.2.1 – Describe at least two institutional best practices

The Two best practices of the Institute are: (1) Development of crop varieties/hybrids for food, nutritional and livelihood security (2) Mera Gaon Mera Gavrav outreach programme of ICAR-IARI

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

https://iari.res.in/index.php?option=com_content&view=article&id=825&Itemid=9

7.3 - Institutional Distinctiveness

7.3.1 – Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust in not more than 500 words

The thrust area of Indian Agricultural Research Institute, New Delhi are agricultural research and education. Genomics-aided analytical breeding programmes 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 during 2016-17. In wheat, HD 3171, HS562 and HW 5207 were released for commercial cultivation in North Eastern Plain Zone (NEPZ), Northern Hills Zone (NHZ) and Tamil Nadu respectively. A high yielding wheat variety HI 1605 with high protein and micro-nutrients (iron zinc) was released for Peninsular Zone. Durum wheat varieties HI 8759 and HD 4728 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, IARI

has released two basmati rice varieties namely Pusa Basmati 1637 and Pusa Basmati 1728 with blast and bacterial blight resistance, respectively, for commercial cultivation in Basmati growing regions of Punjab, Haryana, Delhi, Jammu Kashmir, Uttarakhand and western Uttar Pradesh. In pulses, desi chickpea variety BG 3043, lentil variety L-4717 and mung bean variety Pusa-137 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. IARI wheat variety HD2967 occupied about 10 million ha and brought prosperity to the farmers. IARI Basmati varieties earned about Rupees 25000 crores of export earnings. Utility of host delivered RNAi of two esophageal gland genes, msp18 and msp20 was demonstrated for the first time to interfere with nematode penetration in brinjal plants. Pusa soil fertilizer testing and 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], and gypsum and lime requirement, and is expected to play a key role in soil health management. During 2016-17, 34 improved crop varieties developed by ICAR-IARI were transferred to 19industry partners. In addition, entomo-pathogenic nematodebased Galleria Cadaver for Insect Pest Management, soil fertilizer testing and recommendation (STFR) meter, BGA bio-fertilizer technology, VAM bio-fertilizer technology, and compost inoculant bio-fertilizer technology were licensed to different industries. During this year 5 patents and 2 copyrights were granted to the institute. The institute has also protected 26crop varieties underProtection of Plant Varieties and Farmers Rights. Faculty and students of IARI have published Research papers 601 research papers in peer reviewed journals with International Impact factor. During the 55thConvocation of IARI, 231 candidates (112 M.Sc., 8 M.Tech. and 111 Ph.D.) were awardeddegrees including 13 (7 M.Sc., 1 M.Tech. and 5 Ph.D.) international students. The Institute has been ranked 23rd in overall ranking of all Institutes (https://www.nirfindia.org/2017/flipbook/2017/index.html#p24), and ranked 15th among Universities

Provide the weblink of the institution

https://iari.res.in/files/Publication/annual_report/Annual_Report-2016-17_08082 017.pdf

8. Future Plans of Actions for Next Academic Year

1. To Enhance the Research Outcome of faculty and students: Faculties will be encouraged to bring external funded projects, and basic research to enhance the research publication and development of technologies by students and faculty. 2. The Institute plant to obtain ISO9001:2015 certificate for quality management system. 3. Promotion of digital solutions: IARI will strengthen E-Granth and Krishikosh for promotion of open access policy, subscription of electronic journals and e-books for library. 4. The Institute plans to provide plagiarism check software to its faculty and students to check plagiarism in their manuscripts before publication. 5. Three per cent of the total number of seats in each scheme of admission in Ph.D. open to Indian nationals are reserved for differently abled candidates 6. Institutes of Eminence (IoE) is a recognition scheme for higher education institutes in India, set by the University Grants Commission in 2017. IARI has planned to submit application for IoE. 7. Schoolwise plan: a. School of crop improvement: To employ genomics assisted advanced breeding technologies for development of high yielding, biofortified and naturally stress tolerant crop varieties, and to conduct basic and strategic

research to identify new QTLs and genes for various economically important traits in different crops. b. School of Horticulture: Breeding for varieties of horticultural crops with higher productivity, wider adaptability, resistance to biotic stresses and enhanced nutritive value. c. School of Basic Sciences: To bridge the phenotype-genotype gap, the School has planned to established and operationalise a state-of-the art plant phenomics facility, and introduce a Course of Advances in Plant Phenomics to develop research skills of PG and Ph.D. students in this area. d. School of Crop Protection: Advancement in pathogen diversity analysis, diagnostics and development of integrated management technologies for agricultural pests and pathogens of national importance by employing the frontier areas of science. e. School of Natural Resource Management: The Crop and Natural Resource Management research at the Institute will focus on developmentof efficient resource management technologies for enhancing farm productivity and income, crop diversification, enhanced use of solar power, environmental sustainability and gender empowerment. f. School of Social Sciences: The social sciences and technology transfer research will focus on analysis of the influence of macro-economic variables like public investments, credit, farm mechanization, total factor productivity, diversification, development of innovative extension models.