

ANNUAL REPORT

2018

Postgraduate Institute of Agriculture
University of Peradeniya

VISION

To be a globally competitive centre of excellence in postgraduate education and research in agriculture and related fields.

MISSION

To provide high quality postgraduate education and promote pioneering high impact and innovative research to produce competent professionals in agriculture and related fields.

GOALS

- Maintain quality and relevance of all postgraduate degrees
- Promote high quality research, innovation and capacity building leading to vibrant research culture
- Ensure cadre of competent and committed academic, administration and support staff
- Instill high professional skills, ethical and moral values and leadership qualities among students and staff of the Institute
- Disseminate information/knowledge to all stakeholders
- Enhance good governance
- Maintain efficient administration and sustainable financial management

DIRECTOR'S STATEMENT/REVIEW



The Postgraduate Institute of Agriculture (PGIA) was established in June 1975, in terms of the Ordinance No. 9 of 1979 as the pioneering institution of postgraduate education of its kind in the country and functions as an Institution within the University of Peradeniya, under the direction of its Board of Management. The main objective of creating the PGIA was to develop in-country capacity for postgraduate education and to provide appropriately trained scientific personnel to a rapidly expanding agricultural sector of the country. PGIA has served this national need for nearly four decades blossoming into a fully fledged Higher educational Institution and a Centre of excellence for postgraduate education in the Country and the Region.

During the past 40 years, it had made a considerable progress in student enrolment for various graduate study programmes, from 19 students at the inception to over 500 annually now. So far over 5000 postgraduates have been produced by the Institute in the wide spectrum of areas in agriculture. PGIA student population includes graduates from almost all different disciplines including Agriculture, Engineering, Veterinary Medicine & Animal Science, Arts, Science, Medicine and Business Management. Foreign graduates from Bangladesh, India, Nepal, Myanmar, Nigeria, Oman and Ghana have already completed their postgraduate degrees at the PGIA and currently students from Thailand, Vietnam, Ghana, Maldives and Afghanistan are reading for their research degrees.

Currently the Institute offers 31 M.Sc. degree programs under 11 Boards of Study. The PGIA is unique in its teaching as almost all courses and programs are conducted by visiting staff with wide teaching and research experience from Universities, government and non-government organizations, national and international institutes, private sector firms, etc. The practical knowledge and skills are imparted through well equipped laboratories mostly through the Faculty of Agriculture, providing the state-of-the-art technologies. Now the focus of the PGIA is to attract more research students without confining itself to imparting academic knowledge.

While pioneering in furthering higher education in graduate studies, PGIA has ventured into offering its programs in the Capital City of Colombo, expanding its horizons to cater for a wider group of the society.

PGIA maintains close collaborations with our partnering Institutes of the National Agriculture Research System and SAARC Countries. Exchange of Faculty members, researchers, staffs and students among institutes and conducting joint research, seminars, conferences and workshops, still remain as our top priority. We are proud to be the undisputed leader in capacity building and human resource development of our young scientists in Agriculture to become outstanding citizens and human capital for global development.

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Organizational Structure

MEMBERS OF THE BOARD OF MANAGEMENT -2018

Ex-Officio Members

1. Prof. C.M.B. Dematawewa, Director, PGIA
2. Mr. W.K.L.E. Walallawita, Chief Financial Officer representing Secretary, Ministry of Higher Education
3. Mr. J.R.C. Jayathilake, Director, Dept. of Trade & Investment Policy, Ministry of Finance
4. Mr. B. Wijayarathne, Secretary, M/Irrigation & Agriculture, representing Ministry of Agriculture
5. Dr. R.P.M. Pathirathne, Addl.Sec. (Livestock Dev.) representing the Secretary, M/Rural Econ. Affairs
6. Mr. K.A.I.D. Silva, Director (Policy & Planning) representing Secretary, Ministry of Environment
7. Mr. AnuraSathurusinghe, Conservator General of Forests representing the Dept. of Forest
8. Dr. J.D.H. Wijewardena, Secretary/Director, Sri Lanka Council for Agricultural Research Policy
9. Dr. W.M.W.Weerakoon, Director General, Department of Agriculture
10. Dr. N. Wedasinghe, Director General, Department of Animal Production & Health
11. Dr. A.P. Heenkende, Director General, Department of Export Agriculture
12. Dr. D.M.S. Munasinghe, Dean, Faculty of Vet. Medicine & Animal Sc., University of Peradeniya
13. Prof. D.K.N.G. Pushpakumara, Dean, Faculty of Agriculture, University of Peradeniya
14. Prof. K.L. Wasantha Kumara, Dean, Faculty of Agriculture, University of Ruhuna
15. Dr. M.P.S. Magamage, Dean, Faculty of Agriculture, University of Sabaragamuwa
16. Dr. D.C. Abeysinghe, Dean, Faculty of Agriculture, Wayamba University
17. Dr. A.M.J.B. Adikari, Dean, Faculty of Agriculture, University of Rajarata
18. Dr. P. Sivarajah, Dean, Faculty of Agriculture, Eastern University
19. Dr. K. Sooriyakumar, Dean, Faculty of Agriculture, Jaffna University

Elected Members of the Faculty of Agriculture

20. Dr. H.M.V.G. Herath, Board of Study in Agricultural Biology
21. Prof.(Ms.) H.L.J. Weerahewa, Board of Study in Agricultural Economics
22. Prof. E.R.N. Gunawardena, Board of Study in Agricultural Engineering
23. Dr. L.N.A.C. Jayawardena, Board of Study in Agricultural Extension
24. Prof.(Ms.) G.L.L.P. Silva, Board of Study in Animal Science
25. Prof. T. Sivananthawerl, Board of Study in Bio-Statistics
26. Prof. S. Kodithuwakku, Board of Study in Business Administration
27. Prof. W.A.J.M. de Costa, Board of Study in Crop Science
28. Prof. D.G.N.G. Wijesinghe, Board of Study in Food Sc. & Technology
29. Dr. K.S. Hemachandra, Board of Study in Plant Protection
30. Dr. W.A.U. Vitharana, Board of Study in Soil Science

Members Appointed by the University Grants Commission

31. Prof. H.P.M. Gunasena, Emeritus Professor of Crop Science, University of Peradeniya
32. Prof. Saman Abeysinghe, Dept. of Botany, University of Ruhuna
33. Prof. S.K. Pinnawala, Dept. of Sociology, University of Peradeniya
34. Dr. I.S.B. Abeysinghe, Director, Tea Research Institute
35. Dr. Tilak Abeysekara, Consultant Nephrologist and Head, Dept. of Nephrology & Transplantation, Teaching Hospital, Kandy

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ANNUAL REPORT – 2018

POSTGRADUATE INSTITUTE OF AGRICULTURE UNIVERSITY OF PERADENIYA (As at 31st of December 2018)

A. Introduction

The Postgraduate Institute of Agriculture was established in June 1975 by Statute No. 2 of 1974 under the old University of Ceylon Act No. 1 of 1972 and was attached to the University of Sri Lanka. Under the provisions of the Universities Act No. 16 of 1978, the above Statute was deemed to be an Ordinance and accordingly, the Commission promulgated the Ordinance No. 9 of 1979 which became operative from 1st January 1980 and forms the legal basis for the functioning of the Institute. The main objective of creating this unique institution was to develop in-country capacity for postgraduate education and to provide appropriately trained scientific personnel to a rapidly expanding agricultural sector of the country. The Institute is attached to the University of Peradeniya.

Academic Programmes

To achieve its goals, the institute has designed a diverse set of higher degree programmes which are of current importance to the economy of Sri Lanka. Curricular were also revised to cater to the demand in the country. At present PGIA offers Ph.D., DBA, M.Phil. and 31 M.Sc. degree programmes with course work and course work and research. In its graduate programmes, the Institute places much emphasis on full-time residential training, which enable the postgraduate students to participate fully in the academic life of the university and its research programmes. An important challenge facing the PGIA is to develop disciplined, dedicated and hard working students who would devote considerable time to their studies and research and get the widest possible exposure in the relevant fields. Through such commitment, the graduates of the Institute are expected to develop strong work ethics, which should become an integral part of their character.

The Institute revised its existing regulations equivalent to Sri Lanka Qualifications Framework (SLQF) Guidelines effective from 2017 and admitted students accordingly. The degree programmes are;

M.Sc/MBA - Course work inclusive of 5 credits Directed Study/Project
M.Sc/MBA - Course work and research inclusive of one year research
M.Phil/Ph.D./DBA – Research only

The M.Sc. applicants for above degrees can have an exit at PG Diploma or PG Certificate level satisfying respective credits requirements. For those who complete 25 credits can obtain PG Diploma and for those who complete 20 credits can obtain PG certificates. This is the first time the Institute introduced PG Certificate programme for the candidates who needs to obtain postgraduate qualifications within a very short period.

Panel of Teachers

The Panel of Teachers consists of over 300 outstanding academic staff with wide teaching and research experience, the majority of whom are from the Faculty of Agriculture, Peradeniya and the others from other Faculties of the University System, Government Departments, Research Institutes, Corporations, Private Sector Firms, International Institutions and Non-governmental Organizations.

During 2018, 421 students were registered under 11 Boards of Study, particulars of which are as follows;

M.Sc. - 356	MBA - 41	M.Phil - 09	Ph.D. - 15	Casual - 0
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Students conferred degrees at the General Convocation of 2017 who have completed their degrees as follows

Ph.D. -	09	M.Phil. -	20
M.Sc. -	320	MBA -	22

Postgraduate Agriculture Students Association

Postgraduate Agriculture Students' Association (PASA) organized a PGIA Day on 23/06/2018, a full day programme in which the morning session was held at the University Ground. Morning Session was inaugurated with hoisting the National Flag by the Deputy Vice Chancellor and the University Flag by the Director. Students, Academics and Non Academic Staff participated at the PGIA day. Many entertainment events were organized by the PASA. The glamorous evening session was held in Kandy.

Annual Congress

The 30th Annual Congress of the PGIA was held in 15th and 16th November 2018 in Kandy. Dr. WAU Vitharana, Senior Lecturer, Department of Soil Science served as the Coordinator of the Congress.

The inaugural session of the congress was graced by distinguished guests including the Vice Chancellor of the University, Dean of the Faculty of Agriculture and Profess T. Kosaki of the Department of Global Liberal Arts, Faculty of International Communication, Aichi University, Japan / President, International Union of Soil Sciences Austria as the keynote speaker. The Chief Guest for the inauguration session will always be a highly prestigious and respected person to highlight both existing and perspective academic collaborations and other related items. Accordingly, Governor, Central Bank of Sri Lanka, Dr. I. Coomaraswamy was graced the event.

Fifty research papers were received from research students from both local and international institutions including India, Japan, Canada, Philippines and Australia. After review, 40 research papers were presented at the Congress under 7 technical sessions and 12 short communications were presented. Among them 09 awards were made to the most outstanding presentations.

Thematic Area	Paper Title	Name of the Student
Food & Nutrition	Millet Phenolics as Natural Antioxidants in Food Model Systems and Human LDL / VLDL Cholesterol <i>in vitro</i>	Disna Kumari
Genetics and Plant Breeding	Haplotype Diversity Analysis of Bacterial Leaf Blight Resistance Gene <i>Xa21</i> in Rice	Dhanesha Nanayakkara
Land Resource Management	Fertilizer Usage and Land Productivity in Intensively Cultivated Vegetable Farming Systems in Sri Lanka: An Analysis Based on a Questionnaire Survey	HAN Upekshani
Germplasm Characterization and Plant Protection	Genetic Diversity Analysis of “ <i>Murungakayan</i> ” Rice Accessions based on Seed Morphology and Molecular Characterization	MMSL Manatunga
Agricultural Engineering and Material Science	Extraction and Characterization of Bio-based Polymeric Materials from Traditional Rice Straw Varieties in Sri Lanka	WGA Pabasara
Animal Science & Fisheries	Preliminary Evaluation of Probiotic Potential of Yeasts Isolated from Bovine Milk and Curd of Sri Lanka	DU Rajawardana
Agricultural Economics and Extension	Influence of Users’ Technology Readiness on the Perceived Value of Mobile Phone Enabled Internet Services	AMASM Bandara
Poster Presentation	Harvest Maturity Affects Postharvest Quality of lime fruits (<i>Citrus aurantifolia</i> Swingle)	SD Samaradiwakara
Over all Best Presentation		Dhanesha Nanayakkara

B. Achievements

Research Publication Facilitation Fund

Five Students were selected to make oral presentations of their research at international conferences held abroad in 2018. The Institute sponsored these students funding each of them Rs. 50,000/= for travelling/registration etc.

Joachim Memorial Award

Joachim Memorial Award (a cash prize) was presented at the Annual Congress to the student who earned the highest GPA in the Year 2018. In 2018 the following students have obtained the highest GPA of 4.00 for their degree programmes:

Ms. DIN Wanigasooriya, Plant Protection
Mr. FHCA Silva, Agric. Engineering

C. Failures

No significant failures were confronted in the year 2018

D. Future Plans

- To develop infrastructure facilities of PGIA to cater the modern day requirement in line with the latest technological development to attract both local as well as foreign students.
- To create more student friendly flexible academic environment aiming at enhancing graduate output while maintaining the highest standards in all Postgraduate programmes.
- To enhance the no of students graduating with research degrees.
- To increase Student Intake with the use of social media effectively.
- To increase research students – Institute plans to allocate more funds to the RFF (Research Facilitation Fund) to facilitate students for their research and to give wider publicity among students on this facility.
- To introduce effective mechanism to continuously monitor the progress of the research carried out by the students and guided in the right direction
- To admit more foreign students for different programmes at the PGIA through collaborative agreements. The FAO also agreed to send few foreign students in future years.
- To offer more programmes and workshops in the Colombo Branch.
- To offer more short courses to cover wider segment of the society to disseminate new knowledge/ information based on research.
- To invite Foreign Visiting Professors to conduct academic sessions and collaborative research and to obtain more international funding for research and development
- To introduce a multi-rated on line teacher evaluation system
- To sign more MOUs with foreign universities and institutes to build mutually beneficial collaborations.
- To create a new performance culture by introducing proactive Human Resources initiatives, career counseling / coaching for better performance of PGIA employees.

- Improve infrastructure facilities of the Institute qualitatively and quantitatively to provide a conducive academic environment to attract both local and foreign students.
- To upgrade the MIS of the Institute with the guidance of an external expert member to cater to the wide variety of needs and in the meantime to introduce a paperless, student/user friendly effective management system.
- All strategies to be implemented while protecting and minimizing damage to the environment in line with sustainable development policies and make all the stakeholders aware of it.

B. NEW ENTRANTS & STUDENT ENROLMENT

B.1 DETAILS OF RESOURCES AND STUDENTS – (As AT 31st DECEMBER 2018)

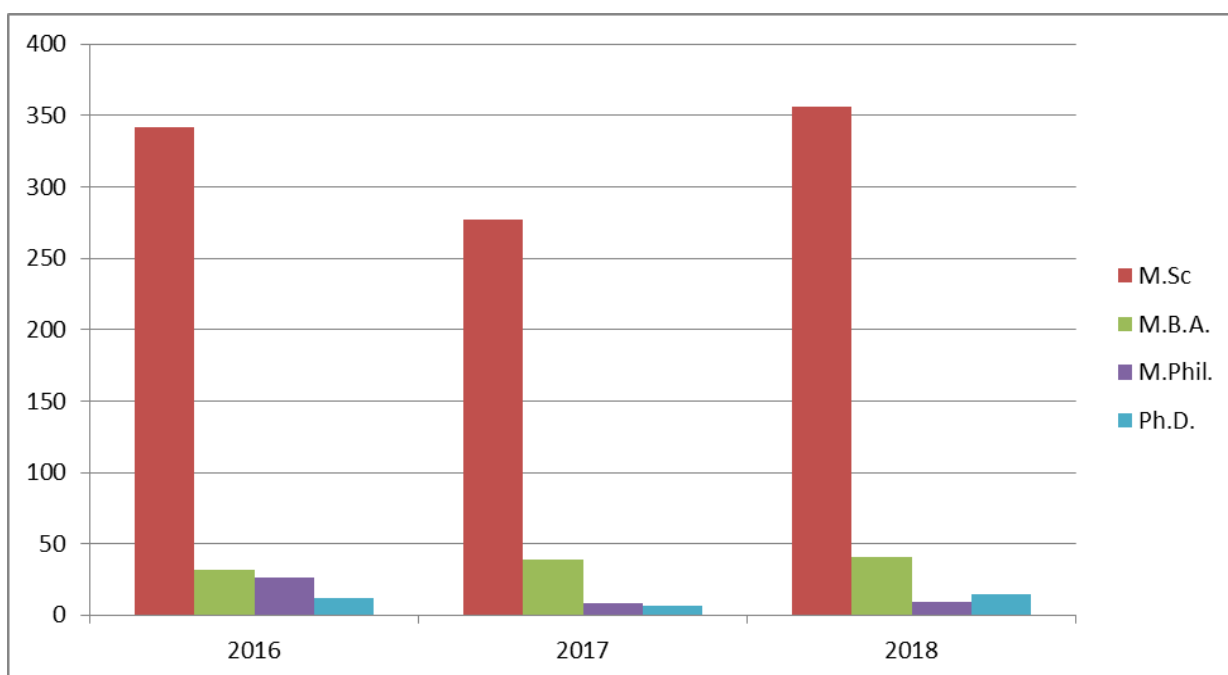
Programme of Study	Total No. of Students	Distribution of Staff (Permanent Staff Only)			
		Academic Staff	Non-Academic Staff	Academic Support Staff	Total
Casual	0	1	38	1	40
M.Phil (CW&R)	69				
M.Phil (R)	62				
M.Sc. (CW)	956				
M.Sc.(CW&R)	152				
MBA.(CW)	189				
MBA.(CW&R)	52				
Ph.D (CW&R)	23				
Ph.D(R)	106				
Total	1609	1	38	1	40

B.2 DETAILS OF LOCAL STUDENTS IN POSTGRADUATE DEGREE PROGRAMMES - 2018

Programme of Study	Full Time/Part Time	New Entrants (Jan-Dec 2018)			Student Enrolment (Total No. of Registered Students as at 31 st December 2018)			No. of Graduated *
		Male	Female	Total	Male	Female	Total	
Casual	Part Time	0	0	0	0	0	0	
M.Phil (CW&R)	Full Time	0	0	0	26	43	69	10
M.Phil (R)	Full Time	2	7	9	20	42	62	-
M.Sc.(CW)	Full Time	82	184	266	392	564	956	251

Programme of Study	Full Time/Part Time	New Entrants (Jan-Dec 2018)			Student Enrolment (Total No. of Registered Students as at 31 st December 2018)			No. of Graduated *
		Male	Female	Total	Male	Female	Total	
M.Sc.(CW&R)	Full Time	20	70	90	37	115	152	-
MBA.(CW)	Full Time	9	11	20	119	70	189	33
MBA.(CW&R)	Full Time	15	6	21	34	18	52	-
Ph.D (CW&R)	Full Time	0	0	0	14	9	23	2
Ph.D(R)	Full Time	6	9	15	53	53	106	8
PG Dip.	Full Time	-	-	-	-	-	-	18
Total		134	287	421	695	914	1609	

Student Registration 2016 -2018



B.3 DETAILS OF FOREIGN STUDENTS IN POSTGRADUATE DEGREE PROGRAMMES - 2018

Programme of Study	Full Time/Part Time	New Entrants (Jan-Dec 2018)			Student Enrolment (Total No. of Registered Students as at 31 st December 2018)			No. of Graduated*
		Male	Female	Total	Male	Female	Total	
Ph. D	Full Time	0	2	2	0	4	4	-
M.Sc.	Full Time	1	0	1	1	0	1	1

C. STAFF DETAILS

C.1 DETAILS OF ACADEMIC STAFF (AS AT 31ST DECEMBER 2018) (PERMANENT STAFF ONLY):

Department/U nit/ Division	Senior Prof.		Prof.		Associate Prof.		Senior Lecturer Gr. I		Senior Lecturer Gr. II		Lecturer		Lecturer Probationary		Academic Support Staff		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administration			1														1	

M – Male

F - Female

C.2 DETAILS OF NON-ACADEMIC STAFF (AS AT 31ST DECEMBER 2018) (PERMENENT STAFF ONLY):

Faculty/Department/ Branch	No. of Staff Members									
	Most Senior ¹		Senior Staff ²		Junior Staff ³		Minor Employees ⁴		Total	
	M	F	M	F	M	F	M	F	M	F
Administration	-	2	-	2	2	2	8	1	10	7
Registration	1	-	1	2	1	-	2	-	5	2
Account	-	1	-	-	6	-	1	-	7	1
Computer Unit	1	-	-	-	1	-	1	-	3	-
Library	-	1	-	2	-	1	3	-	3	4

1- Administrative level and Executive Level

2- Senior Staff Grades

3- Clerical and Allied Grades

4- Below the above Grades

Recreation Activities - Welfare Society

The Welfare Society organized following events.

- "Sinhala Aurudu Uthsawaya" on 01st May 2018 with participation of family members of staff.
- Annual Trip at Mahiyanganaya, Dimbulagala, Pasikuda & Seruwawila on 23 & 24 September 2018 with participation of family members of staff.

D. RESEARCH OUTPUT DATA

D.1 PUBLICATION OUTPUT IN 2018

D.1 (a) NUMBER OF PUBLICATIONS DONE BY THE ACADEMIC STAFF IN 2018

Since the Institute does not have permanent academic cadre except the Director/PGIA and the fact that all academic and research activities of the Institute is carried out by permanent academic staff members of the Faculty of Agriculture, University of Peradeniya, publications done by them have usually been listed under the University of Peradeniya. As such the publications of the Director/PGIA are indicated below.

(Annexure I)

Faculty	Publication Category		Number		Remarks
			Published -Local-	Published -Foreign-	
	No. of Full Papers published in indexed journals*		1	-	-
	No. of Full Papers published in non-indexed refereed journals		-	-	-
	No. of Full Papers published in non-refereed Journals		-	-	-
	No. of conference Papers published as full papers in Conference Proceedings		2	-	-
	No. of Abstract Publications		5	-	-
	No. of Book Chapters published		-	-	-
	No. of Books Published	By a publisher	-	-	-
		By the Author	-	-	-

D.1 (b) LIST OF FULL PAPERS PUBLISHED IN INDEXED JOURNALS IN 2018

The following publications have been done by the PGIA students during the year under review which have been published in the Tropical Agricultural Research Journal, which is the Journal published by the Institute itself since 1989.

Name of the Article	Name of the Authours	Co-Authours
Factors Associated with Illegal Fishing Practices in Three Perennial Reservoirs in Sri Lanka	E.S. Wickremasinghe	C.M.B. Dematawewa U. Edirisnghe
Screening Milk for Bovine Tuberculosis in Dairy Farms in Central Province, Sri Lanka	M. T. L. K. Jayasumana	T. I. Galappaththi, P .G. A. Pushpakumara, C. D. Gamage, N. H. Smith, and H. R. N. Jinadasa
Changes in Structural and Chemical Properties of Rice Husk Biochar Co-pyrolysed with <i>Eppawala</i> Rock Phosphate under Different Temperature	D.K.R.P.L. Dissanayake	R.S. Dharmakeerthi, A.K. Karunaratna, and W.S. Dandeiya
Molecular Identification of <i>Fusarium</i> spp. from Wilt-infected Tomato and Brinjal Plants in Selected Regions of Sri Lanka and Endophytic Bacteria as a Potential Option for Disease Management	W.A.P.G. Weeraratne	D.M. De Costa
Fertilizer Usage and Land Productivity in Intensively Cultivated Vegetable Farming Systems in Sri Lanka: An Analysis Based on a Questionnaire Survey	H.A.N.Upekshani	R.S.Dharmakeerthi, P. Weerasinghe and W.S. Dandeniya
Haplotype Diversity Analysis of Bacterial Leaf Blight Resistance Gene Xa21 in Rice	N.H.L.D.L.D. Nanayakkara	V. Herath and D.V. Jayatilake
Labor Migration and Impact of Remittances on Poverty and Income Inequality: Evidence from Estate Sector of Sri Lanka	R.A.P.I.S. Dharmadasa	J. Weerahewa and P.A.Samarathunga

Name of the Article	Name of the Authours	Co-Authours
Performance Evaluation of a Down Draft Double Chamber Pyrolysis Reactor under Field Conditions	A.M.Y.W. Alahakoon	A.K. Karunarathna and R.S. Dharmakeerthi
Macronutrient Composition of Selected Traditional Yams Grown in Sri Lanka	W.M.A.A. Kulasinghe	S. Wimalasiri, G. Samarasinghe, R.Silva and T. Madhujith
Development of an Effective Propagation Protocol for Osbeckia octandra (L.) DC. (HeenBovitiya)	D.M.I.C.B. Dassanayake	S.A. Krishnarajah and J.P. Eeswara
Mapping of Soil Erosion Hazard Zones of Sri Lanka	M.J.P.T.M. Jayasekara	H.K. Kadupitiya and U.W.A. Vitharana
Use of Free Open Source Software Technologies to Enhance Knowledge Mobilization in Smallholder Agricultural Communities in Sri Lanka	H.A.C.K. Jayathilake	U.K. Jayasinghe-Mudalige L.D.R.D. Perera G.A. Gow N. Waidyanatha
Serum Metabolic Profile Based Assessment of Nutritional Status of Temperate Crossbred, Stall-fed, Lactating Dairy Cows: A Case Study of a Medium Scale Mid-country Cattle Farm	H.M.G.P. Herath	K.K.T.N. Ranaweera W.M.P.B. Weerasinghe M.B.P. K. Mahipala
Morphological Characterization of Local and Introduced Finger millet (Elusinecoracana (L.) Gaertn) Germplasm in Sri Lanka	W.M.R. Kumari	D.K.N.G. Pushpakumara W.M.W. Weerakoon D.M.J.B. Senanayake H.D. Upadhyaya
Forecasting Annual Tea Production in Sri Lanka	H.P.A.S.S. Kumarasinghe	B.L. Peiris
Severity of Climate Induced Drought and its Impact on Migration: A Study of Ramechhap District, Nepal	N. Joshi	R. Dongol

Name of the Article	Name of the Authours	Co-Authours
Preliminary Investigations on the Genetic Relationships and Origin of Domestication of the Tea Plant (<i>Camellia sinensis</i> (L.)) Using Genotyping by Sequencing	M.K. Meegahakumbura	M.C. Wambulwa, D.Z. Li and L.M. Gao
Mapping and Validation of Quantitative Trait Loci for Root Architectural Traits in Rice (<i>Oryza sativa</i>) under Non-Stress and Salinity Stress Conditions	D.R. Gimhani	B.P. Abhayawickrama, M.S.F. Saliha and N.S. Kottearachch
Evaluation of the Nutritional Value of Selected Leafy Vegetables Grown in Sri Lanka	H. Nadeeshani	K.M.S. Wimalasiri1 , G. Samarasinghe , R. Silva and T. Madhujith
Effect of Phenological Growth Stage on Establishment of In-vitro Cultures of Bael (<i>Aegle marmelos</i> (L.) Corr.)	C.K. Pathirana	A.M.U.R.K. Attanayake , D.M.U.S.K. Dissanayake , J.G.K.L. Gamlath , K.W. Ketipearachchi , T. Madhujith , P.C.G. Bandaranayake and J.P. Eeswara
Performance of Anaerobic Germination-tolerant Rice Varieties in Direct Seeding: Effects on Stand Establishment, Weed Growth and Yield under Different Seeding Rates	T. K. Illangakoon	B. Marambe , R.S.K. Keerthisena , A.P. Bentota , S. Kulatunge V. Kumar and A. Ismail
Reproductive Phenology of Tea (<i>Camellia sinensis</i> (L.) O. Kuntze) Cultivars in Sri Lanka	J.H.N. Piyasundara	I.P. Wickramasinghe , M.T.K. Gunsekara , M.A. Wijeratne, S.A.C.N. Perera , M.A.B. Ranathunga and A.K. Mudalige
Scaling-Up of an Up-Flow Anaerobic Sludge Blanket Incorporated With a Bio-Filter Liner System for Treating Kitchen Wastes	R.T.K. Ariyawansha	B.F.A. Basnayake and A.K. Karunarathna

Name of the Article	Name of the Authours	Co-Authours
Resilience of Farmers at Water Shortage Situations in Minor Irrigation Systems: A Case Study in Kurunegala District, Sri Lanka	W.M.S.M. Wijekoon	E.R.N. Gunawardena M.M.M. Aheeyar W.P.R.P. De Silva
Development of an Auger Conveyor Type Metering Device for Transplanting of Vegetable Seedlings Raised in Paper Pots	R. Chilur	B.M. Nandede P.S. Tiwari
Potential of Rhizobacterial Pseudomonas and Bacillus spp. to Manage Papaya Ringspot Virus Disease of Papaya (Carica papaya (L.)	C. Ranasinghe	D.M. De Costa B.M.V.S. Basnayake D.M. Gunasekera S. Priyadharshani N.V.R. Navagamuwa
Design and Development of a Heat Pump Based Moisture Control System for Industrial Drying of Medicinal Plants	E.M.A.C. Ekanayake	K.S.P. Amaratunge H.K.P.P. Kariyawasam M.G.M. Kumara H.L.A.P.G.I.L. Bandara
Potential of Eppawala Rock Phosphate as a Phosphorus Fertilizer for Rice Cultivation in Acid Sulphate Soils in Matara District of Sri Lanka	U.A.J. Ratnayake	K.D.N. Weerasinghe U.W.A. Vitharana K.K.J. Chandika
Detailed Mapping of Soil Texture of a Paddy Growing Soil Using Multivariate Geostatistical Approaches	R.A.A.S. Rathnayaka	U.W.A. Vitharana W.K. Balasooriya

D.2 DETAILS OF THE SCIENCE AND TECHNOLOGY DEVELOPMENT OUTPUT IN 2018

Category	Number Developed	Number transferred/ commercialized/ publicized
Development of new product/processes	3	
Improvement of the quality of existing product/processes		1

D.4 DETAILS OF KNOWLEDGE DISSEMINATION TO THE GENERAL PUBLIC DURING THE YEAR 2018

Organized by (Faculty/ Department/ Centre/Unit)	Category (Seminars/workshops/ training programmes/ awareness programmes/ short courses/ field demonstrations/ media programmes)	Title of the Programme	Date of held/ Duration	No. participated	Target group (e.g Mushroom Farmers, School Children, Teachers)
Agric. Eng. /PGIA	Conducting Workshops	Dairy Farm Mechanization and Processing Machines	23-25 July 03 days	24	Livestock Development Assistants, Dept. of Animal Production and Health/ NWP
Agric. Eng./ PGIA	Conducting Workshops	Short Course on IWRM	07-10 August 03 days	17	Officials of World Vision Lanka Coconut
Agric. Eng. /PGIA	Conducting Workshops	Short Course on GIS	12-14 Sep. 03 days	32	Cultivation Board staff
Agric. Eng./ PGIA	Conducting Workshops	Dairy Farm Structures	16-18 Oct. 03 days	23	Livestock Development Assistants, Dept. of Animal Production and Health/ NWP
Agric. Ext. /PGIA	Conducting Workshops	ICT Stewardship for Agricultural Extension	14-15 Nov. 02 days	26	Extension Officers, ICT Officers & Development Officers
Agric.Eng./ PGIA	Conducting Workshops	GIS for Livestock Development	26-28 Nov. 02 days	24	Livestock Development Assistants, Dept. of Animal Production and Health/ NWP
Plant Protection/ PGIA	Conducting Workshops	PG Certificate Course on Techniques and Applications in Molecular Biology	Nov.- Dec. 08 days	21	Relevant Officers in Island wide

Organized by (Faculty/ Department/ Centre/Unit)	Category (Seminars/workshops/ training programmes/ awareness programmes/ short courses/ field demonstrations/ media programmes)	Title of the Programme	Date of held/ Duration	No. participated	Target group (e.g Mushroom Farmers, School Children, Teachers)
PGIA Administra- tion	Capacity Building Programmes for Staff Members of the PGIA	Personal Grooming, Happiness, Motivation & Results	17 Oct. 01 day	50	PGIA Staff Members
Cap-Net Lanka/ PGIA	Conducting training programmes/ field demonstrations	Workshop on Climate Change Adaptation for Field Officers and Farmer Representatives in Giants Tank area in Mannar District	25 June	63	Farmer Leaders in Irrigation Schemes
Cap-Net Lanka/ PGIA	Conducting training programmes/ field demonstrations	Fermer Leader Programme on Climate Change Adaptation for Field Officers and Farmer Representatives in Allai Scheme in Trincomalee	10 Sep.	74	Farmer Leaders in Irrigation Schemes
Cap-Net Lanka/ PGIA	Conducting training programmes/ field demonstrations	On-Farm Water Management	08 & 09 Oct.	19	Farmer Organization Leaders
Cap-Net Lanka/ PGIA	Conducting training programmes/ field demonstrations	Junior Water Awards for Innovations & Knowledge Management (Aqua Republica)	01 Oct.	110	School Children

Organized by (Faculty/ Department/ Centre/Unit)	Category (Seminars/workshops/ training programmes/ awareness programmes/ short courses/ field demonstrations/ media programmes)	Title of the Programme	Date of held/ Duration	No. participated	Target group (e.g Mushroom Farmers, School Children, Teachers)
Cap-Net Lanka/ PGIA	Conducting training programmes/ field demonstrations	TOT for Implementation of Hygiene Education and Promotion Programmes at Rural Level	19 Nov.	67	World Vision Lanka Trainers
Cap-Net Lanka/ PGIA	Conducting training programmes/ field demonstrations	MELP Programme on Capacity Development of the Farmer Leaders in Medium Irrigation Schemes empowering them on participatory decision making	17 Sep.	29	Farmer Leaders in Irrigation Schemes
Faculty of Agriculture	Organizing exhibitions/Public performances	stall in the Exhibition Site at Maha Illuppallama organized by Faculty of Agriculture	04-07 Oct.	300	School Children, Graduates

D.5 NATIONAL& INTERNATIONAL AWARDS RECEIVED IN 2018 -

PGIA Annual Congress 2018 - Awards received in 2018

Award/Best Paper (Name and the purpose of the Award & Title of the Paper)	National/ International or other	Name/s of recipients	Designation	Faculty/ Department/ Institute
Session I Food & Nutrition Millet Phenolics as Natural Antioxidants in Food Model Systems and Human LDL / VLDL Cholesterol <i>in vitro</i>	National	Disna Kumari	Student	PGIA
Session II Genetics and Plant Breeding Haplotype Diversity Analysis of Bacterial Leaf Blight Resistance Gene <i>Xa21</i> in Rice	National	Dhanesha Nanayakkara	Student	PGIA
Session III Land Resource Management Fertilizer Usage and Land Productivity in Intensively Cultivated Vegetable Farming Systems in Sri Lanka: An Analysis Based on a Questionnaire Survey	National	HAN Upekshani	Student	PGIA
Session IV Germplasm Characterization and Plant Protection Genetic Diversity Analysis of “ <i>Murungakayan</i> ” Rice Accessions based on Seed Morphology and Molecular Characterization	National	MMSL Manatunga	Student	PGIA
Session V Agricultural Engineering and Material Science Extraction and Characterization of Bio-based Polymeric Materials from Traditional Rice Straw Varieties in Sri Lanka	National	WGA Pabasara	Student	PGIA

Award/Best Paper (Name and the purpose of the Award & Title of the Paper)	National/ International or other	Name/s of recipients	Designation	Faculty/ Department/ Institute
Session VI Animal Science & Fisheries Preliminary Evaluation of Probiotic Potential of Yeasts Isolated from Bovine Milk and Curd of Sri Lanka	National	DU Rajawardana	Student	PGIA
Session VII Agricultural Economics and Extension Influence of Users’ Technology Readiness on the Perceived Value of Mobile Phone Enabled Internet Services	National	AMASM Bandara	Student	PGIA
Session VIII Poster Presentation Harvest Maturity Affects Postharvest Quality of lime fruits (<i>Citrus</i> <i>aurantifolia</i> Swingle)	National	SD Samaradiwakara	Student	PGIA
Over- all Best Presentation	National	Dhanesha Nanayakkara	Student	PGIA

**D.6 SCHOLARSHIPS, FELLOWSHIPS & TRAINING PROGRAMMES
(BOTH LOCAL & FOREIGN) RECEIVED BY THE INSTITUTE (AS AT
31st DECEMBER 2018) - SAWA Fellowships**

Name of the recipient	Department	Designation	Type of the Programme (PhD/M.Phil /Master/PG D/Dip/Short term Training	Duration of the Programme	No. of Staff received	Country
Ms. MMGS Dilini	Agric. Engineering	Student	M.Sc. (CW & R)	05 years	-	Canada
Ms. P. Kowshayini					-	
Ms. EMGP Hemachandra					-	

E. INTERNATIONALISM**E.1 DETAILS OF INTERNATIONAL CONFERENCES AND WORKSHOPS
CONDUCTED BY THE INSTITUTE 2018 - None**

No	Theme	Organized by (Faculty/Dept./Centre/ Unit)	Date of held/ Duration	Target Group	No. of Participants
1	Annual Congress	PGIA	15-16 November	Researchers and Graduates	500

**E.2 DETAILS OF INTERNATIONAL AGREEMENTS /MOU'S SIGNED IN
2018**

No	Programme/Theme	Whether MoU signed or not (Yes/No)	Department/Faculty involved	Collaborative Agency	Date of signed
1	Technical Corporation in implementation of SAC activities in Sri Lanka and PhD Programmes of the PGIA.	No	PGIA	SARRC Agriculture Center (SAC)	-
2	IDRC - SAWA Fellowship Programme	Yes	Board of Study in Agric. Engineering, PGIA	South Asia Consortium for Water Resources Studies	February 2018
3	Utilization of Crop Wild Relatives in Eggplant Pre-Breeding for Adaptation to Climate Change	Yes	Board of Study in Crop Science, PGIA	World Vegetable Center	February 2018

E.3 INFORMATION OF INTERNATIONAL STAFF VISITED FOR UNDERGRADUATE TEACHING/POSTGRADUATE TEACHING/SYMPOSIUM/WORKSHOP IN THE YEAR 2018

Institute	Name of the Programme	Country	No. of Staff
PGIA	Annual Congress	Japan	1
		Canada	1
		Australia	1
		Philippines	1

F. DETAILS OF NEW COURSES COMMENCED DURING THE YEAR 2018

Department	Postgraduate Course	Course Code	Medium	Postgraduate Course	Certificate	Diploma	PG Diploma	Master	M.Phil	PhD	Other
Crop Science	Turf grass Management (1)	CS 5145	English	✓							
Crop Science	Plant Functional Traits (1)	CS 5210	English	✓							

G. SUSTAINABILITY RELATED PROGRAMMES TARGETED FOR THE YEAR 2019 AT PGIA

1. Continue with the PGIA Course Modules to offer more than 100 sustainability related courses.
2. Conducting environment related short courses and programmes. Ex. Water Professional Day with the participation of students of selected schools
3. Conducting environmental awareness programmes for staff members.
4. Re-using stationeries (Envelopes & Papers) and minimizing wastages through continuous awareness programmes
5. Introducing paperless effective communication system through e-mails, MIS and SMS.
6. Promote/encourage paperless online application process.
7. Streamlining the segregation and recycling process of wastepaper, polythene and bio-degradables.
8. Introducing Solar Power (Clean energy) to PGIA.

Agriculture Library-Annual Report 2018

Library Allocations received in 2018

PGIA Allocation	- Rs. 10,00000.00
Faculty Allocation	- Rs. 496,199.41
Total	- Rs. 1,496,199.41

Acquisitions - Books

During the Year 2018, 49 books were added to the Library Collection, which comprised textbooks recommended by teaching staff of both the Faculty of Agriculture and the PGIA to suit the teaching programmes of the two institutions .

Details of the books added to the collection

Number of books purchased by PGIA finances	37
Value	Rs.440566.52
Number of books purchased by Faculty allocation	12
Value	Rs.288430.00

Total number of books purchased (PGIA & Faculty)	49
Library & PGIA allocation were used to purchase TEEAL database	
Payments from, Library allocation	Rs. 199325.00
Payments from, PGIA allocation	Rs. 199325.00
Total Value	Rs. 398650.00

Donations

Number of books received from other donors	751
Value	Rs.1183464.89
Total number of books added (Purchases and Donations)	446

Periodicals

Two periodicals titles were subscribed in 2018 by the PGIA funds.

Number of periodicals ordered by PGIA finances	02
Value	Rs. 4400.00
Number of periodicals ordered by Faculty allocation	00
Total number of periodicals ordered (PGIA)	02
Total Value	Rs. 4400.00

Library User Categories

The registered Library users in 2018 were. Details are shown below.

Postgraduate Students	1601
Undergraduate Students	1209
Academic Staff (Permanent)	165
Academic Staff (Temporary)	05
Permanent Academic support Staff	00
 Clerical and Similar grades	 02
Total	2982

In addition 14 users registered as short term users of the Library.

Usage of Library Books

A total of 2293 books have been circulated among the students/teachers in 2018.

Literature Searching

CAB CD- ROM database was used for literature searching by research students both in the Faculty and PGIA 11 CAB searches were carried out during the Year 2018.

Sales /Exchanges of Tropical Agricultural Research.

Sales work of the PGIA journal 'Tropical Agriculture Research' is handled by the Library.

The number of copies sold in 2018 (full volume)	-	00
The number of copies sold in 2018 (single issues)	-	10
 Number of copies exchanged with other institutions for their publications (Single Issues)	 -	 10

Other library cooperation activities:

Mr. T.N. Bandara / Library Information Assistant was transferred to Agriculture Library from University of Kelaniya with effect from 15.05.2018

H.N.K. Dissanayake

Senior Asst. Librarian/ Agriculture
28.01.2019

Full papers- Indexed Journals

- 1) Wickremasinghe, E.S., **C.M.B. Dematawewa** and U. Edirisinghe. 2018. Factors associated with illegal fishing practices in three perennial reservoirs in Sri Lanka. *Tropical Agricultural Research* 30(1):1-11.

No. of Conference papers published as full papers in Conference Proceedings

- 1) **Dematawewa, C.M.B.** and P. Silva. 2018. Performance evaluation of Kottukachchiya, a rapidly vanishing indigenous goat breed in Sri Lanka. *Proceedings of World Congress on Genetics Applied to Livestock Production* 11.688 (Digital Archive) <<http://www.wcgalp.org/>>.
- 2) Walugembe, M., F. Bertolini, **C.M.B. Dematawewa**, M.P. Reis, A.R. Elbeltagy, A.R. Schmidt, S.J. Lamont and M.F. Rothschild. 2018. Detection of selection signatures among Brazilian, Sri Lankan, and Egyptian chicken populations under different environmental conditions. *Plant and Animal Genome Conference XXVI*, January 13-17, 2018, San Diego, CA. Abstr W037.

Abstract Publications

- 1) Noortharsiny, B., **C.M.B. Dematawewa**, and N.M.I.D. Karunadasa. 2018. Effect of poultry housing on egg production performance of layers under intensive farming in Badulla district. *Proceedings of the 5th Faculty of Agriculture Undergraduate Research Symposium held in Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka*, pp. 33.
- 2) Nirudhika, H.D.A.S., **C.M.B. Dematawewa**, and N.M.I.D. Karunadasa. 2018. Effects of genotype and parity on production and reproductive performance of crossbred buffaloes in a medium scale farm in Badulla district. *Proceedings of the 5th Faculty of Agriculture Undergraduate Research Symposium held in Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka*, pp. 38.
- 3) De Silva, V.G.D.T., **C.M.B. Dematawewa**, M.K. Wickramarachchi, A. Lakmini, and S.M.R. Samarakoon. 2018. Evaluation of hatchability characteristics of broiler breeders under two different farm conditions. *Proceedings of the 5th Faculty of Agriculture Undergraduate Research Symposium held in Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka*, pp. 39.
- 4) Sooriyabandara, G.A.N.M., **C.M.B. Dematawewa**, H.H.W.M. Somarathna, and W.A.S.M. Premaratne. 2018. Modeling of lactation curves and assessing the production and reproduction performance of dairy cattle under semi-intensive farming conditions in Kurunegala district. *Proceedings of the 5th Faculty of Agriculture Undergraduate Research Symposium held in Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka*, pp. 47.
- 5) Wickremasinghe, E.S., **C.M.B. Dematawewa**, and U.E. Edirisinghe. 2018. Investigation of length-weight relationships and condition factor (K) of fish species being cultured in Victoria reservoir in Sri Lanka. *Proceedings of the 4th International Research Symposium on Investing in Biodiversity and Ecosystem Services, Rajarata University of Sri Lanka (ISIBES-2018)*. Accepted.

