

COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES (CAES)



ANNUAL REPORT

2017-2018



Makerere University

COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES (CAES)

ANNUAL REPORT

2017-2018

College of Agricultural & Environmental Sciences (CAES)

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MAKERERE UNIVERSITY COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES (CAES)

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ANNUAL REPORT (2017-2018)

College of Agricultural & Environmental Sciences (CAES)

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College of Agricultural & Environmental Sciences (CAES)

VISION

To be a leading institution of academic excellence and innovations in Africa

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MISSION

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To advance training, knowledge generation and service delivery in order to enhance agricultural development, sustainable natural resource utilization and environmental management

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ABBREVIATIONS

AfDB	African Development Bank
ARUA	African Universities Alliance
CAES	College of Agricultural and Environmental Sciences
DABE	Department of Agricultural and Biosystems engineering
DANRE	Department of Natural Resource Economics
DAP	Department of Agricultural Production
DEIS	Department of Extension and Innovation Studies
DEM	Department of Environmental Management
DEM	Department of Environmental Management
DFTHN	Department of Food Technology and Human Nutrition
DGGCS	Department of Geography, Geo-informatics and Climatic Sciences
DRGT	Directorate of Research and Graduate Training
FBT	Department of Forestry, Biodiversity and Tourism
FTBIC	Food Technology and Business Incubation Centre
MAK	Makerere University
MaRCCI	Makerere University Regional Centre for Crop Improvement
MUARIK	Makerere University Research Institute Kabanyolo
MUBFS	Makerere University Biological Field Station
NBDB	National Biodiversity Data Bank
NEF	Next Einstein Fellowship
NFC	Nyabyeya Forestry College
SAS	School of Agricultural Sciences
SFEGS	School of Forestry, Environmental and Geographical Sciences
SFTNB	School of Food Technology, Nutrition and Bioengineering
USAID	United States Agency for International Development
WSU	Western Sydney University

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FOREWORD



On behalf of the CAES Management, I congratulate all staff and students upon the achievements realized in the academic year 2017-2018. I am heavily indebted to the management team for the commitment and teamwork in steering this college. I salute all the Deans and heads of all units for the success stories we are taking stock this year.

Under Teaching and Learning the college recorded notable achievements including presentation of the best science student during the 68th graduation ceremony. Our Graduate output significantly rose. We presented 18 PhDs and 112 Masters for conferment of degrees in various disciplines. I am glad to report that in our effort to make our training relevant to our clientele, curriculum reviews were undertaken leading to approval of new programmes some of which are already running at both undergraduate and graduate level.

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In Research, the college ably demonstrated the possibility of mass domestic rearing of crickets and grasshoppers for consumption and business. Our World Bank funded project MaRCCI embarked on breeding cowpea and sorghum for not only disease and drought resistance but also for value addition. Our staff implemented low cost rain water harvesting, irrigation, postharvest technologies that have impacted on small holder farmers' livelihoods. Our own students also came up with a user friendly and affordable technologies for testing farm produce for pesticide residues.

This year, we were able to sign and implement a number of MoUs with our partners. Under these collaborations, we acquired 10 hectares of land from Nyabyeya Forestry College for training forestry students. We also acquired a modern state- of- the- art poultry unit at MUARIK under the

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KOICA IBS program. The college hosted a number of visitors including the Vice Chancellor Prof. Barnabas Nawangwe, over 40 Directors of the USAID Feed the Future Innovation Lab and the first Secretary- General of the African Universities Alliance (ARUA) Prof. Ernest Aryeetey.

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Under the support environment, a number of staff ascended in their ranks while others were recognised for their scientific contribution to society. A case in point is Prof. Noble Banadda who scooped the Pius XI *Gold Medal* 2018 for his outstanding scientific work. Prof. Phinehas Tukamuhabwa won the UBBC Biotechnology Award 2018 while Prof. Archileo Kaaya won AU Award 2018 as Agent of Change for aflatoxin control in Africa. As a college, we also honored three professors (Prof. John Muyonga, Prof. Mnason Tweheyo and Prof. Phinehas Tukamuhabwa) for their distinguished services offered to Makerere Universitys as Deans and Director, MUARIK. However, a number of staff was sacked by the Appointments Board for various reasons including ascondment.

The college was ranked as best training institution in exhibiting innovations and entrepreneurship during the 26th Source of the Nile Agricultural and Trade show. We also successfully nominated the Late Ryoichi Sasakawa for the award of an Honorary Doctorate of Laws of Makerere University in recognition of his contribution to humanity.

One of our PhD students, Halasi Gidongo won the best student Abstract award in the USA while Juliet Anena, an undergraduate student also won a French Scholarship award for best presentation skills during the Campus France Day held at Makerere University Freedom square.

Under infrastructure development, the CAES through MaRCCI acquired first class agricultural tractor and three other vehicles including a mini-bus and two double cabins to aid in staff and student movement and research. The college using internally generated funds also acquired another tractor to enhance production on the university farm at Kabanyolo.

The construction of the US \$ 1.2 million Post Graduate and Research Laboratories at MUARIK was almost complete. The project is funded by the AfDB - Higher Education, Science and Technology (HEST) project.

In our effort to mobilise resources, I am happy to report that we were able

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to generate funds to supplement government efforts to run the university through writing grant winning proposals and effectively managing the projects.

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Management greatly appreciates Government of Uganda for the support in infrastructure development, research and innovation. We also thank our different development partners for the enduring support in various aspects of development-human, infrastructure and research.

Special thanks go to Makerere University top management for the support and conducive environment-without which, it would be impossible to undertake the core activities highlighted. As CAES, we are committed to undertaking our core mandate and strengthening our collaboration as we Build for the future.

I thank you.

100M Bernard Bashaasha.

PRINCIPAL

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College of Agricultural & Environmental Sciences (CAES)

1.0: INTRODUCTION

1.1: College of Agricultural & Environmental Sciences (CAES)

CAES is one of the ten colleges of Makerere University located within the Western part of Makerere University. Its main administrative center is in the Agriculture building located just opposite the University Main Library entrance. CAES has three Schools: School of Agricultural Sciences (SAS), the School of Forestry, Environmental and Geographical Sciences (SFEGS) and the School of Food Technology, Nutrition and Bioengineering (SFTNB).

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The college has two institutes that handle research namely Makerere University Agricultural Research Institute Kabanyolo (MUARIK) and Makerere University Biology Field Station (MUBFS). The college has 14 centers serving as a base for knowledge transfer and partnerships. These are complemented by facilities located at Nyabyeya Forest College and Budongo Conservation Field Station that cater for Forestry students.

1.2: CAES Schools and departments

The School of Agricultural Sciences (SAS) is comprised of three Departments. The departments are: (i) Agricultural Production; (ii) Agribusiness and Natural Resource Economics; and (iii) Extension & Innovation Studies. These departments offer Undergraduate, Masters and PhD degrees in their respective disciplines.

The School of Forestry, Environmental and Geographical Sciences (SFEGS) is composed of three departments (i) the Department of Forestry, Biodiversity and Tourism; (ii) the Department of Environmental Management and (iii) the Department of Geography, Geo Informatics and Climatic Sciences.

The School of Food Technology, Nutrition and Bioengineering (SFTBN) comprises two departments. (i) the Department of Agricultural and Bio systems Engineering and (ii) the Department of Food Technology and Human Nutrition. The SFTNB hosts an e- learning center (Telematics receiving studio) fully furnished with equipment. The SFTNB also hosts

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the Food Technology and Business incubation Centre (FTBIC).

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1.3: Research institutes

1.3.1: Makerere University Agricultural Research Institute Kabanyolo (MUARIK)

MUARIK is a public institution and an arm of Makerere University that interfaces with the National Agricultural research system (NARS). Seated on 650 hectares of land it is being managed as a multi-disciplinary facility for training, research, outreach and production under the CAES. It is located 19 kilometers North-West of Kampala off Gayaza Township on the Kampala-Zirobwe Road. The institute houses the center for Continuing Agricultural Education Centre (CAEC), the undergraduate student hostel and facilities for over 30 graduate students under the regional programmes. The Tissue Culture, Animal Science and the Biotechnology laboratories are also located at MUARIK. Other facilities at MUARIK include CURAD, staff residences, poultry, dairy, and piggery units among others.

1.3.2: The Makerere University Biological Field Station (MUBFS)

MUBFS is located in Kibale National Park in Kibale district. It is mainly involved in research but it is increasingly hosting short international courses in Tropical Biology. Originally, most of the research at MUBFS was primatology but over the years, the research agenda has broadened to include ecological and behavioral research on taxonomy, and socio economic studies. There is adequate dormitory and guest house space for groups ranging between 10 and 60 and catering services. In collaboration with national institutions, the institute provides consultancy services to the government and other organizations in Uganda. Consultancy services include tailor made training in different fields of environment and natural resources, assessment and monitoring of environment and natural resources therein environmental impact assessments and audits, project monitoring and evaluation and facilitation.

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1.4: Research Centres

Recognizing the importance of outreach, the college established a fullyfledged outreach facility called the Continuing Agricultural Education Centre (CAEC). Through CAEC, the College operates outreach programs for various stakeholders (farmers, policy makers, students etc). The presence of the CAEC therefore makes the College a key player in development-impact oriented training and research.

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Other centres include the Plant Breeding, Biotechnology and Seed systems research center, the Remote Sensing and GIS Laboratory, the Molecular Biology Laboratory and the Water and Wetlands research Laboratory. Others are the National Biodiversity Data Bank (NDBD), the Food Technology and Business Incubation Center (FTBIC), the Makerere University Climate Change research and Innovations (MUCCRI), Centre for Waste Management, Centre for Mountain Resources and Disaster Management, Rangeland Resources Centre and the Agricultural Policy Analysis Centre. All these operate at different capacities.

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2.0: TEACHING AND LEARNING

2.1: Student admission

This academic year 2017-2018, a total of 759 undergaduate students were admitted to the CAES. Of these 250 were females representing 33% as represented in the table 1 below:

Table 1: Undergraduate Admission 2017/18.

Female					Male					
Year of admission	Gov't	Intern'l	Private	Sub Total	Gov't	Intern'l	Private	Sub To- tal	То- tal	% female
2017/2018	68	6	224	298	133	19	309	461	759	33%

2.2: Student Enrolment 2017/18

The total student enrolment for semester one 2017/18 academic year was 1879. Of these 36% were females as indicated in the table 2 below.

Table 2: Student Enrolment 2017/18

	Unde	rgrad		Pos	stgrad	d	Grand Total			
Year	F	М	Sub-Tot	F	М	Sub-Tot	F	М	Total	
2017/2018	658	1124	1782	33	64	97	691	1188	1879	

2.3: Curriculum Review

2.3.1: Revised and Approved Graduate and Undergraduate Academic Programmes

The University strategy is to continually improve the relevance of programmes offered through curriculum development and review. For the year under review, the following programmes were developed and approved by the appropriate institutional and government agencies (see table 3)

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Table 3: Revised and Approved Graduate and Undergraduate Academic Programmes

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COLLEGE	PROGRAM	STATUS		
Graduate A	cademic Programmes			
CAES	Master of Science in Food Science & Technology	Revised		
	Master of Science in Agricultural and Applied Economics	Reviewed		
	Master of Science in Environment and Natural Resources	Revised and approved		
	Master of Land Use and Regional Development	Revised and approved		
	Master of Science in Forestry and Biodiversity Management,	Revised and approved		
	Master of Science Agroforestry and Community Development	Revised and approved		
	Master of Geographical Sciences	Revised and approved		
	Master of Science in Disaster and Risk Management	Revised and approved		
	Undergraduate Academic Programmes			
	BSc. Water and Irrigation Engineering	Revised and approved		
	BSc. Bioprocessing Engineering	Revised and approved		
	BSc. Tourism and Hospitality Management	Revised and approved		
	Bachelor of Geographical Sciences	Revised and approved		
	BSc. in Forestry	Revised and approved		

2.3.2: Proposed Programmes

The curriculum review process also identified new programmes that need to be developed in order to address the current national and global issues in the agricultural sector. The proposed programmes are listed table 4 below.

Proposed Programme	Duration
BSc. Animal Science and Husbandry	3 Years
BSc. Agricultural Economics	3 Years
Bachelor of Rural Economy and Cooperative Management	3 Years
MSc. Integrated Animal Production Systems	2 Years
MSc. Horticulture	2 Years
MSc. Natural Resource Economics	2 Years

Table 4: Proposed programmes

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2.4: Student Graduation statistics 2017/2018

During the 68th Graduation ceremony, the CAES graduated a total of eight hundred eight (808) graduands. Of these, eighteen (18) were PhDs and one hundred twelve (112) Masters. Six hundred seventy five (675) were Bachelors degrees. This showed a marked improvement in the output as compared to the 67th Graduation ceremony as represented in the table below.

Graduation	Diploma		oma Bachelors		PGD		Masters		PhD		Total		
	F	М	F	М	F	М	F	М	F	М	F	М	
67 th Graduation Jan 2017	0	0	213	333	1	1	28	60	2	8	244	402	646
68 th Graduation Feb 2018	0	0	238	437	2	1	68	44	3	15	311	497	808

Table 5: Student Graduation statistics 2017/2018

2.5: Internship/Recess term

2.5.1: Internship and Community service at the SFEGS

2.51.1: Partnership with Budongo Conservation Field Station (BCFS)

BCFS has worked closely with SFEGS in providing research and training facilities for staff and students. In addition, National Forestry Authority (in charge of Budongo Forest) uses scientific information generated by BCFS researchers for management of the forest.



Budongo Conservation Forest Station.

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BCFS is a nexus of research and conservation whose vision is to ensure sustainable management and utilization of the Budongo Forest Reserve as a model for tropical rainforest management. Budongo is habitat to thousands of tropical plants and animals including chimpanzees. To the local and distant communities, the forest is a source of timber and nontimber forest products.

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Budongo offers conservationists a unique platform to assess the impacts of utilization and management interventions on forest biodiversity because it is one of the few tropical forests with a well documented management history over the past century. Furthermore, permanent sample plots (PSP), established in the 1930s within Budongo, are probably the oldest tropical rainforest PSPs in the world that offer a unique opportunity to understanding the dynamics of tropical forests. Since its inception in 1990, BCFS has blended research and conservation to ensure sustainable management and utilisation of the Budongo Forest Reserve as a model for tropical rain forest management.

In 2007 BCFS was registered as a Ugandan NGO. It is now recognized among the conservation fraternity in Uganda. BCFS works closely with Makerere University's School of Forestry, Environmental and Geographical Sciences as well as the College of Veterinary Medicine, Animal Resources and Bio-Security. BCFS offers research facilities for staff, students and interns from various Ugandan and international universities especially students studying Forestry, Conservation Biology and Wildlife Veterinary Medicine. In addition to the links with academia, BCFS collaborates with statutory institutions such as Uganda National Council for Science and Technology, National Forest Authority and Uganda Wildlife Authority to promote nature conservation through research and long-term monitoring projects.

BCFS has strengthened its community outreach and conservation programme by working with farmers along the forest edge on projects aimed at improving their livelihoods while conserving the forest resource base. These projects include environmental education for adults and school children, integrated eco-health, farm income generating activities that minimise dependence on forest resources, mitigation of humanwildlife conflict and killing of wild animals for bush meat.

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In 2011, BCFS opened its refurbished and purpose-equipped field laboratory at Sonso. The laboratory has enhanced the capacity to conduct effective wildlife disease diagnosis as well as provide training facilities for wildlife veterinarians in Uganda.



2.5.1.2: Students' residence at BCFS

Students' residence at BCFS.

The relationship between Makerere University and Budongo Forest Reserve started with support from the Government of Norway through NORAD for the Budongo Forest Project. Budongo Conservation Field Station (BCFS) was established as an NGO to manage forest projects and has been working with Makerere University to improve the facilities and infrastructure. BCFS received a grant and built accommodation facilities such as students' dormitories. BCFS also rehabilitated buildings and facilities like kitchen and store.

a) Facilities at BCFS



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The following modest facilities are used by students during field practical training:

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- Two dormitories for boys each accommodating 30 students named *Kule* and *Muyindi* House.
- One dormitory for girls named *Nabanoga* House accommodating 28 girls.
- Permanent pit latrines and temporary bathrooms.
- The dormitories have solar lighting system and a standby generator.
- In addition, both girls and boys are accommodated in tents provided by Makerere University.
- The centre hosts 120 students in rooms and tents.
- BCFS has a resident nurse with modest first aid and medical facilities.

2.5.2: Partnership with Nyabyeya Forestry College

Nyabyeya Forestry College has a long history of partnership and contribution to forestry field training of Makerere University forestry students. Every year, forestry students undergo recess term field training in various forestry and forest products processing at Nyabyeya Forest College. The College's staff and technicians provide technical support for practical training. On the other hand Makerere University academic staff serve as External Examiners at the College.

This year 2018 from 1st to 4th year, more than 400 students have passed through NFC. NFC offered a space where we build the Makerere hostel that can accommodate 45 students. In addition there is land identified next to the hostel allocated to Makerere that can be used to expand accommodation for staff and students.

The university on 15th August 2018 acquired 10 hactares of land offered by NFC, to establish a plantation forest to enhance practical forestry training at the university and for joint research between Makerere and NFC.

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2.5.3: Host institutions for student internship from GGCS and DEM

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The School collaborates with Entebbe Meteorological Training Institute to train Geography students. Students pursung Environmental Sciences are hosted in various government agencies such as National Water and Sewerage Corporation, NFA, Ministry of Energy and Mineral Development, district local governments, NEMA and private sector entities especially those involved in EIA. Students of Forestry are hosted by district local governments, NFA and private forestry companies such as Global Woods Ltd, Core woods, Busoga Forest Company and New Forest Company.

2.5.4: Internship and Community service at the SAS and SFTNB

About 245 Undergraduate students undertaking Bachelor of Science programmes in Agriculture, Horticulture, Food Science and Technology, Agricultural Engineering and the Bachelor of Agricultural and Rural Innovations underwent a 10week competence-based training to equip them with hands on skills ranging from production, management, value addition and entrepreneurship.

The students were dispatched for recess term activities hosted by the Makerere University Agricultural Research Institute Kabanyolo (MUARIK) on 19th May 2018 until 27th July 2018. At a field day held on 27th July, 2018 to mark the end of recess term activities, students demonstrated different technologies in Horticulture including sterilization of soil for nursery gardens, principles of propagation (budding, grafting layering) and different ways of raising seedlings.

The function was graced by the College Deputy Principal Assoc. Prof. Gorrettie Nabanoga and was attended by Makerere University staff, farmers, surrounding community members, Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) officials, students from Gayaza High School, and officials from Agro-max among others.

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CAES Deputy Principal-Assoc. Prof. Gorrettie Nabanoga (2nd R) with Mr. Acon Michael (Rear R), Dr. Giregon Oluput (3rd R) and other officials tour the fruit processing section of the exhibition

The recess term was coordinated by Dr. Narisi Mubangizi and Dr. Opolot Emmanuel. Dr. Opolot said the number of students who participated in this year's recess term was more compared to last year.

"We brought 3rd and 4th year students to take them out of classroom setting to give them practical skills. We covered units in crop and soil science, apiculture, food science and technology, horticulture, rural innovation and extensions, records and accounts, economics of all the enterprises on top of agriculture engineering among others", he said.

In the Food Science stall, students explained and demonstrated the need to add value to agricultural produce, value added products and their health benefits, and how to make different products on both industrial and local scales.

One student group exhibited how to make urea blocks and molasses for dairy farming while others focused on silage and hay making. Another group of students focused on the plant clinic to give farmers guidance on how to diagnose plant diseases and pests, lack of nutrients, bacterial infections among others.

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The CAES has been training students as plant doctors since 2013 in collaboration with the Plant wise program of the Centre for Agriculture and Bio Sciences International (CABI) and the Ministry of Agriculture, Animal Industry and Fisheries.



A student exhibitor explains to visitors the steps of mushroom growing



The students demonstrated tractor maintenance skills acquired during the 10week Internship at MUARIK

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Prof. Archileo Kaaya(2nd R) from the Department of Food Technology and Human Nutrition and other officials inspect students stalls during the recess term at Kabanyolo



Improvised brooders were also on display during the CAES Internship Field Day Exhibition at MUARIK

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Students from Gayaza High School (Right in Uniforms) view some of the exhibits during the Internship Field Day heald at MUARIK, 27th July 2018

2.6: Freshers' orientation

The College on 8th August, 2018 held its orientation for the first years admitted for the 2018/2019 academic year. The ceremony was held in the Biology Laboratory, and attended by over 600 undergraduate students. Members of staff including management and administrative staff addressed students on number aspects including academics, discipline, security, financial management, health among others. Every academic year, first year students are oriented first, at the university level and then at college and departmental levels on university policies, general conduct as well as dos and don'ts of the university. Speaker after speaker welcomed students to CAES describing it as the best science college in the university which they should be proud of. Students were informed about the university processes, requirements and rules for registration as a key requirement for recognition in the university, fees payment, library access, pass marks and penalties for non compliance with the academic conduct which includes suspension and dismissal from the university.



A section of the freshers seated in the Biology lab during the orientation

2.7: Semester 1 2018-2019 Examinations

Semester 1 examinations started on 19th November to 8th December 2018. The exams were smoothly conducted in spite of the challenges incurred with the new system of AIMS. The Registrar's office was provided gadgets for reading examinations permit but within the first week, the system failed and students could not print permits. The problem was later rectified and stabilized in the second week of the exams.

2.8: Preparation for the January 2019 Graduation

All the schools generated the graduation lists for the January 2019, approved and sent to the Academic Registrars Office. No major challenge was encountered. A total of 677 students was submitted for graduation of these 104 were graduate students and 573 were undergraduante. The table below shows the graduation statistics from the different schools:

			-		
School	Undergraduate students	Gra	duate		Total
		PhD	Masters	PGD	
SFTNB	56	-	13	-	69
SAS	237	5	39	-	281
SFEGS	280	4	34	9	327
Total	573	9	86	9	677

Table 0. Graduation Statistics for January 201	duation Statistics for January 2	2019
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College of Agricultural & Environmental Sciences (CAES)

3.0: RESEARCH AND INNOVATIONS

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CAES undertakes R &D along the research and development continuum that includes basic, strategic and applied R&D activities in Agriculture, Food technology, nutrition and Environment. Research also targets critical development challenges as well as novel or emergent areas such as climate change, biodiversity conservation and integrated water resources management. The R&D are implemented mainly through postgraduate research activities. This research portfolio is cognizant of the gaps that need to be filled and seeks to intensify investments in critical areas for Uganda and the region.

3.1: Key research areas

- Agricultural Value Chains
- Crop Improvement
- Post Harvest Management
- Sustainable Production Systems
- Food, Nutritional security & Value addition
- Natural resource Management & Climate Change
- Evaluation Research
- Forestry and Biodiversity

3.2: Summary of Research funding for 2017-2018 Academic year

In the period under review, 30 new research grants were attracted amounting to the amounts summarized in the table 7 and 8 below:

Table 7: Summary of Research funding for 2017-2018

College			US Dollars	UGX	Euros
Agricultural Sciences	and	Environmental	3,101,906	2,759,791,333	1,893,198

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Table 8: CAES Research income / funding 2017/2018

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	Project Name	P	Start Date	End Date	Amount	Funder
	BIOINNOVATE: Insect Based Agribiziness For Sustainable Grasshopper and Cricket Production & Processing For Food In Kenya & Uganda (INSBIZ)	Dr. Dorothy Nakimbugwe	1/1/2018	31/12/2018	USD 325,000	The International Centre For Insect Physiology and Ecology (ICIPE)
2	BIOINNOVATE: Nitrogen Bio- Fortified And Pelletized Commercial Grade Organic Fertilizer Made From Urban Bio-Waste To Improve Soil Producti vity And Livelihoods Of Small Holder Farmers	Dr. Stephen Lwasa	1/2/2018	1/1/2020	USD 86,820	The International Centre For Insect Physiology And Ecology (ICIPE)
ო	BIOINNOVATE: Commercialization Of Novel Sorghum And Millet Products For Improved Socio- Economic Gains In Eastern Africa (CONSORMIP)	Dr. Yusuf Byaruhanga	1/1/2018	1/1/2020	USD 86,820	The International Centre For Insect Physiology And Ecology (ICIPE)
4	BIOINNOVATE: Integrating ICT in Commercial Production of Quality Sweetpotato Planting Material In East Africa (ICOPESA)	Prof. Samuel Kyamanywa	1/1/2018	31/12/2020	USD 194,645	The International Centre for Insect Physiology and Ecology (ICIPE)
വ	BIOINNOVATE: Piloting and Commercialization of Economically Viable Leather Processing Technology for Environmental Protection and Zero Waste Discharge	Prof. Frank Kansiime	31/11/2017	31/12/2020	USD 66,054	The International Centre for Insect Physiology And Ecology (ICIPE)

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The International Centre for Insect Physiology and Ecology (ICIPE)		RUFORUM	RUFORUM	RUFORUM	CIMMYT - The International Maize And Wheat Improvement Centre (CIMMYT) or Centro International De Mejoramiento De Maiz Y Trigo
USD 326,682	USD 50,000	USD 350,000	USD 60000	USD 60,000	USD 42,670.
31/12/2020	30/06/2018	31/03/2022	1/3/2020	1/3/2020	30/12/2018
1/1/2018	1/6/2018	1/3/2018	1/3/2018	1/3/2018	2/1/2018
Prof. John H. Muyonga	Prof. Bernard Bashaasha	Prof. Johnny Mugisha	Prof. Jacob Godfrey Agea	Prof. Majaliwa Mwanjalolo	Dr. William Ekere
BIOINNOVATE: Adaptation and Promotion of Refractance Window Drying Technology for Production of High Quality Bioproducts	RUFORUM: Leveraging Makerere University Agric Research Institute Kabanyolo DVC For Dairy Business Incubation	RUFORUM & CARP: Making Potato Value Chain Enhance Productivity And Incomes In Uganda	RUFORUM: Postdoctoral Fellowship (Ru/2018/Post Doc/17) - Award To Gabriel Karubanga: Unearthing The Potential of Participatory, and Information and Communication Technologies (ICTS) Led Extension and Learning Approaches in Agricultural and Environmental	RUFORUM: Postdoctoral Fellowship (RU2018TQA45 - Award to Akello Sara:	CIMMYT - Mobilization and training of Women Groups on Savings Mobilization for Seed Purchases in Uganda
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CIMMYT - The International Maize And Wheat Improvement Centre (CIMMYT) Or Centro Internacional De Mejoramiento De Maiz Y Trigo	International Foundation for Science	BMBF (German Ministry For Research & Technology); Technische Universitat Dresen, Faculty of Environmental Sciences	E	MAAIF
USD 42,670.	USD 9,240	EURO 61,862	EURO 1,398,975	UGX 2,500,000,000
30/12/2018	30/06/2020	30/06/2020	30/12/2022	31/12/2017
2/1/2018	1/4/2018	1/11/2017	1/1/2018	1/7/2017
Dr. William Ekere	Dr. Alice Turinawe	Dr. Justine Namaalwa	Dr. Odong Thomas L.	Dr. Bernard B.Obaa
CIMMYT - STMA Adoption and Seed Demand Survey in Uganda	Pluralist Agricultural Advisory Service Delivery as a Tool in Enhancement of Sustainable Land Management and Agricultural Development in Highland areas of Uganda	Wood Cluster Analysis	Partnership In Training Scientists in Crop Improvement for Food Security in Africa (SCIFSA)	CAES - MAAIF
12	1 3	4	15	10

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NARO CGS	Private Sector Foundation		International Atomic Energy Agency (IAEA)	Ihe-Delft, Institute of Water Education, The Netherlands	University of Leeds	APPEAR: Austrian Partnership Programme in Higher Education Research For Development	USAID
UGX 197,250,000	UGX 62,541,333	USD 10,000	EURO 48,500	EURO 86,300	USD 32,201.44	EURO 130,512.18	USD 76,142
5/4/2018	31/05/2018	31/12/2017	10/7/2021	31/8/2019	31/12/2018	31/12/2019	31/12/2017
1/8/2016	1/5/2018	1/9/2016	26/9/2016	1/10/2016	1/10/2016	1/12/2016	1/12/2016
Dr. Joshua Wanyama	Dr. Lwasa Stephen	Dr. Richard Miiro	Dr. Fred Kabi	Prof. Frank Kansiime	Dr. Yazidhi Bamutaze	Assoc. Prof. Jeninah Karungi	Dr. Jamiat Nanteza
Promotion of Rainwater Harvesting and Low Head Smallholder Irrigation Systems in Mid Western Uganda Conducting Applied Multidisciplinary Research for Improving household incomes	Wazalendo Short Training	African Forum For Agricultural Advisory Services - M-Omulimisa	Nutritional Strategies to Improve Productivity of Dairy Cattle Graizing Heterogeneous Pastures in South Western Uganda	Small: Water Supply & Sanitation in Small Towns	Hycristal-Integrating Hydro Climate Science into Policy Decisions	Capnex - Capacity Building on the Water Energy- Food Security Nexus Through Research And Training In Kenya & Uganda	Peer Grant - A Multi Sensor Hydrologic Modelling Framework to assess The Impacts Of Small Scale Water Storage Practices
17	18	19	19	20	21	22	23

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USAID	International Development Research Centre (IDRC)	Austrian Development Agency (AIDA)	Volkswagen Stiftung	International Food Policy Research Institute (IFPRI) - Uganda	World Bank	Family Health and International Water Management
USD 86,400	USD 378,130	EURO 47,410	EURO 119,639	USD 35,000	USD 1,100,000	USD 43,432.08
30/11/2017	31/10/2022	31/1/2019	30/4/2020	1/1/2018	31/12/2019	31/12/2018
1/12/2016	8/1/2017	1/2/2017	1/5/2017	1/6/2017	1/6/2017	6/6/2017
Dr.John Wasige	Dr. Omeja Aria Patrick	Prof. Abwoli.Y. Banana	Dr. Jamiat Nanteza	Assoc. Prof. Settumba Mukasa	Dr. Richard Edema	Dr. Revocatus Twinomuhangi
Delivering Crop Yield Now Cast by Intergrating Satelite Data and Crop Modifying - Peer NFS - USA Project	Climate Change And Increasing Human - Wildlife Conflict : How to Conserve Wildlife in the Face of Increasing Conflicts	The Dynamics and Governanance of Uganda's Informal Timber Value Chains.	Livelihood Management Reforms and Process For Structural Change	(MENU) - Meals For Nutrtion in Uganda - Sweetpojtato	(MARCCI) - Makerere University Regional Centre for Crop Improvement	(CBA) Youth Conference
24	25	26	27	28	29	30

College of Agricultural & Environmental Sciences (CAES)
3.3: Technologies and Innovations developed

3.3.1: CAES students develops the, "KeBELA BIOSENSOR"

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The CAES students came up with a user friendly and affordable technology dubbed, KeBELA BIOSENSOR" for testing farm produce for pesticide residues. Since access to organic agricultural market demands that produce has to be certified by an accredited certification body, KeBELA Technology is seeking to ease and quicken the process by producing an affordable and user-friendly technology, which can be employed by the certification bodies to cut down the cost of certification and hence ease access to the global organic market by farmers.

KeBELA is a handheld device that is designed to detect and quantify levels of pesticide residues in agricultural products. This innovation is led by Ambrose Kamya, a fourth year student pursuing BSc. Agric and mentored by Prof. Fred Kabi. This device is linked to a mobile application that automatically receives the test results using Bluetooth and centralizes all the information thereby making farmers visible in the market space as well as aiding government planning and increasing traceability for export. The use of the mobile App linked to the gadget helps in identifying the farmer physical location by GPS coordinates. The gadget also indicates the farmers' products tested in real time.

We are currently working with NOGAMU to create a data bank of all organic farmers who can be traced by their organic products and physical location. The data bank will be updated by the information collected using the gadget and a highway will be used to deliver the updates to the central location. The exporters and importers of organic products will then be able to access /trace the farmers using the data bank to which NOGAMU will have the key. This will make it easy for the importers and exporters to access farmers without necessarily visiting their farm physically. We have applied for a national patent to Uganda Registration Services bureau (URSB) and have got a file number. However, due to the high regional demand for the technology within the organic sector, we are applying to ARIPO for a regional patent but financial constraints have deterred the process.

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CAES students led by Ambrose Kamya (middle) demonstrating the KeBELA Biosensor during the Campus France Day exhibitions

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3.3.2: Implementation of low cost rain water harvesting, irrigation and postharvestvalue addition technologies to enhance vegetable production and household incomes in Hoima.

The Department of Agricultural and Bio systems engineering led by Dr. Joshua Wanyama (PI) implemented a number of technologies among farmer groups in Mid Western Uganda to improve horticultural production and farmers livelihoods under the project titled, *"Promotion of rainwater harvesting and low-head smallholder irrigation systems for sustained market responsive vegetable production in mid-western Uganda,"* funded by the World Bank through NARO Competitive Grants Scheme from 2016-2018.

The project aimed at promoting suitable rainwater harvesting and low-head smallholder irrigation systems for all year round consistent commercial production of traditional and high value vegetables for collective marketing. It also focused on facilitating establishment of formal working linkages between farmers and niche markets (existing traders and consumers) through contract farming.

The project targeted the peri-urban farmers due to their proximity to the markets and has empowered smallholder vegetable farmers to be business-oriented thus, increasing their income and food security in line with Uganda's National Development Plan (2015-2020) and Vision 2040. Rainwater harvesting systems demonstrated included underground water storage tanks (unlined/lined with HDPE Dam liner) and shallow wells. Smallholder irrigation systems demonstrated included overhead sprinkler/drag-hose kit system and drum drip irrigation kit.



Some of the water harvesting and irrigation technologies implemented in Hoima

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3.3.3: Mass domestic rearing of Crickets and Grasshoppers for food and business

The Department of Food Technology and Nutrition in collaboration with the International Centre of Insect Physiology and Ecology (ICIPE) on 5th April, 2018 launched the INSBIZ project (INSect- based agriBIZness for sustainable grasshopper and cricket production and processing for food in Kenya and Uganda). This project is part of the Bio- innovate Africa Phase II Program funded by the Swedish International Development Aid (SIDA) coordinated by Dr. Dorothy Nakimbugwe (PI). Rearing and processing protocols for grasshoppers and crickets have been developed ready for up scaling.

The project will be co- implemented by a number of partners and collaborators including: Agrarian Systems (U) Ltd., Treasure Industries (K) Ltd., Nutreal (U) Ltd., Uganda National Bureau of Standards (UNBS) and Kenya Bureau of Standards (KEBS). The project aims to contribute to improved food and nutritional security, job creation and income generation and, reduction of the gender gap for the most vulnerable groups (youths and women) in East Africa in general and specifically in Kenya and Uganda through insect rearing and processing.



Mak PI Dr. Dorothy Nakimbugwe shaking hands with Hon Min. Christopher Kibazanga during the project launch

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3.3.4: Makerere University's Regional Center for Crop Improvement (MaRCCI) embarks on cowpea and sorghum research for disease, drought and other tolerance

Makerere University's Regional Centre for Crop Improvement (MaRCCI) has initiated two breeding programmes on cowpea and sorghum not only for research but to address the issue of nutritional security and increasing income for farmers. A seven (7) acre cowpea research and demonstration field under MaRCCI has been established at the Makerere Agricultural Research Institute (MUARIK) where most students on cowpea are embedded.



The cowpea research and demonstration site at an early stage at MUARIK

Dr. Dramatri Onziga explained that MaRCCI breeding program is focusing mainly on cow pea and sorghum because they are tolerant to drought and are semi arid crops that can be targeted for Northern Uganda and areas prone to drought.

"We are also feeling the gap in the National Agricultural Research Systems (NARS). We are trying to complement and be part of NARS to make it more collaborations". He said.

A global collection of 360 different cowpea lines refered to as "a Minicore" and the Multi parent Advanced Generation Intercross (MAGIC) population of 260 cowpea traits and 250 Ugandan collection and crosses are being evaluated on this site.

The cowpea project is addressing the issues of cowpea pests and diseases like thrips and scab, fusarium virus, cerospora, leafspot, bacterial blight, pod borer, pod sucking bugs and others.

"We are evaluating a lot of materials for different traits. We had a global collection of cowpea we refer to as "a Minicore" of 360 different cowpea lines.

We also have the Multi parent Advanced Generation Intercross (MAGIC) population of 260 cowpea traits. The mini core and the MAGIC populations were obtained from University of Riverside Califonia. Some came from IITA, and we also have 250 Ugandan collection and crosses.

"From all those unique crosses, 1000 lines, the one of California are all genetyped (have molecular data) available", Dr. Patrick Ongom said.

Several similar cowpea experiments are being conducted in Serere, Arua, Ngetta. Another site of 8 acres of cow pea is at Kyentume still at Kabanyolo.



Mak VC Prof. Barnabas Nawangwe on the visit to the cowpea research and demonstration site at maturity stage at MUARIK

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Another research and demonstration field on Sorghum has been established on 5 acres of land at MUARIK where the MAGIC population of sorghum obtained from Perdue University USA and the cold-tolerance populations are under evaluation.

In addition, the program is testing pontential sorghum hybrids for the commercial beer production for industries and other high yielding sorghum lines that can tolerate cold in mountainous areas like Kisoro and Elgon.

"The idea is that we want to see if sorghum adopted to cold can be grown up in cold areas of Uganda like Kisoro, Mt. Elgon area etc. So we are testing lines that can tolerate cold and give high yields. The programme is also testing the pontential of hybrids which are popular in maize targeting the beer industry." Dr. Dramatri Isaac Onziga explained.



Mak VC Prof. Barnabas Nawangwe on the vist to the established sorghum research site at Kabanyolo

The other MaRCCI research component is value addition.

The programme is also looking at value added products from leaves and seeds of cowpea. The cowpea flour can be used for making porridge which is highly nutritious and this is the centre's future prospect. The proramme intends to work with the School of Food Science to see other complements.



The programme is focussing on sorghum as a target for industrial beer production where demand for sorghum as a raw material is high. Besides food, the sorghum can be processed into local bushera for commercial household income.

"Food and beer industry are key priority for food security. We are trying value addition potential for better products and how to combine sorghum and cowpea with other crop products." Dr. Dramatri said.



MSc. student Brunno Awio serving porridge blended with cowpea and sorghum flour to the USAID team that visited the centre recently

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3.3.5: MaRCCI digitalizes research data capturing and processing

The other MaRCCI success story is the digitalization of research data capture and processing. The Digital Data capture technology is composed of the barcode scanner, weighing scale and tablet acquired under MaRCCI programme to enhance quality of data capture from the field and fastens the process.

Brunno Awio, an MSc Graduate in Plant Breeding explained that previously, data was captured manually on the paper spread sheet and entered into the computer. This, he said would take a month and then the accuracy and quality would be compromised due to human error. Th Laboratory and field data processing involves taking the inventory of the seed stock for example, weight of every sample so as to track very well and to help researchers to know how the seed is utilized.



With the new technology the process is short and produces accurate results. "We generate data sheets from the computer using programmes like excel, breeding management system. We are able to generate bar codes and data sheets. Barcodes are placed in fields representing specific plots.

Data sheets are uploaded on a tablet and we are able to go with tablets to collect data on disease, pests, yield and yield components. From the field, we transfer data into a computer to analyse." Awio explained.

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Winfred Akech the laboratory technologist in charge of daily operations in the state of the art biotechnology laboratory at MUARIK said, the major focus on cowpea and sorghum breeding program is running molecular and micro biology work.

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As a lab technologist, she helps students identify what they can do and when its too much .

"We help them if they need to refer samples to NARO facilities, the US or Nairobi. Inside here, they do molecular characterization of plants, they do marker assisted selection, pathogen identification, multiplication and many others", Aketch explained.

The bio informatics Lab has high throughput computers to big storage capacity servers giving flexibility to run most of molecular data analyses. The laboratory is also linked to other labs in Nairobi Kenya and Michigan State University and can run experiments locally or send out and analyze data.

3.3.6: Platform to provide Agro-processing equipment for Small-Medium Scale Food Processors (PAEFP)

With the growth in the small-medium scale food industry, it has become of necessity to provide processors with alternatives for purchase of food processing equipment. Imported equipment are often expensive and so locally manufactured equipment provide a more affordable alternative. The Department of Agricultural and Bio systems Engineering, Makerere University as part of its research mandate led by Dr. Julia Kigozi embarked on developing a platform on which processors can access a variety of equipment, tailor made to their production capacity. The research so far has been funded by the funds from the Presidential initiative to the Food Technology Incubation centre. Central in the work is to: Design and fabricate equipment for tailor-made to meet processor specific needs, Provide training on the use of the equipment and Provide spare parts and maintenance services for the machines. Equipment that have been fabricated include; Batch Pastueriser, Soy milk machine, Fruit pulper, soya roaster, groundnut sheller, soya steamer, cocoa dehuller, Briguetting Machine, Pedal maize grain cleaner, 500kg capacity biomass dryer, rice planter. Pal operated grain cleaner,

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(a) Soy milk machine

(b) FruitPulper

(c)Batch Pasteurizer





(e) Cocoa Dehuller



(f) Mulondo chopping machine



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Other Equipment



Pedal operated grain cleaner,



Rice transplanter



24 piece Briquetting Machine



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500kg capacity Biomass dryer

3.4: MoU signed/implemented

3.4.1: KOICA IBS Program

The CAES and Chonbuk National University, International Agriculture Development and Cooperation Centre (IADCC) signed an agreement to implement the KOICA Inclusive Business Solutions (IBS) Project. The IADCC is the representative of the consortium of that constitutes Chonbuk National University and the partnerining companies, Eagle Vet, Tech Co. Ltd and Shinhan A-Tech Co. Ltd. This project aims at establishing an agricultural business model linking crop and livestock farming by; strengthening farmers income, reducing poverty, improving agricultural environment in response to climate change, supporting farmers organisation and training farmers on improved agricultural technologies.

3.4.2: Mak- CAES agreement with Nyabyeya Forestry College

Makerere University, College of Agricultural and Environmental Sciences and Nyabyeya Forestry College signed a Memorandum of Understanding (MoU) which came into effect on 3rd July 2018. The purpose of the MoU was to formalize the partnership in areas of training of forestry professionals and technicians for better management of forestry and related resources. The specific obligation covered under this MoU include human resource sharing, teaching aid and information sharing, improvement of skills for the college and university students, property ownership and sharing, sourcing for support and collaborative research among others.

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3.4.3: MoU with Western Sydney University to promote collaborative Research

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The CAES signed a Memorandum of Understanding (MoU) with the Western Sydney University (WSU) to promote collaborative research. The MoU signed on 20th June 2018 is in recognition of the mutual benefits gained through a cooperative program of promoting scholarly activities and international understanding.

Under the MoU the two universities will be undertaking joint activities like organisation of joint academic and scientific activities such as courses conferences, seminars, symposia or lectures. Others include exchange of academic staff for teaching and research activities on top of exchanging PhD/HDR students to undertake study or participate in research programs, in addition to exchange of publications and other information of common interest.

The memorandum which will last for five years subject to renewal on agreement was signed by the Vice chancellor Prof. Barnabas Nawangwe on behalf of Makerere University and the Vice chancellor WSU Prof. Barney Glover and was witnessed by the Directorate of legal affairs Makerere. Prof.Elly Sabiiti is the coordinator who responsible for managing the development and conduct of any activities upon which the two institutions agree on.

3.5 Visitors hosted

3.5.1: The Vice Chancellor visit Nyabyeya Forestry College

On 15th August 2018, the Vice Chancellor Makerere University, Prof. Barnabas Nawangwe made his maiden visit to Nyabyeya Forestry College in Masindi to officially launch the implementation of the Memorandum of Understanding (MoU) between Mak-CAES and NFC and to receive the 10 hactares of land offered by NFC to Mak- CAES for practical forestry training. The Vice Chancellor was accompanied by the University Legal Officer Mr. Henry Mwebe, the Principal College of Agricultural and Environmental Sciences (CAES) Prof. Bernard Bashaasha, his deputy Dr. Gorettie Nabanoga, the Dean School of Forestry, Environmental and Geographical Sciences Prof. Mnason Tweheyo, Deans and Heads of units from the CAES.

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Mak VC Prof. Barnabas Nawangwe (in yellow) exchange the MoU with the Principal NFC to the Late Godfrey Akubonabona symbolize the the operationalisation of the MoU

3.5.2: Over 40 Directors of the USAID Feed the Future Innovation labs visit MaRCCI

On 24th May 2018, over 40 Directors of the USAID Feed the Future Innovation labs visited the Makerere University Regional Centre for Crop Improvement (MaRCCI). The visit to Makerere University and MaRCCI was part of the activities of the five day days visit (21st-25th May 2018) to Makerere University to discuss and assess the progress of the various projects the USAID Feed the Future Innovation Labs is implementing in the various parts of the world. The team was received by the MaRCCI program Director Dr. Richard Edema and his Deputy Prof. Paul Gibson and staff.



A team of the USAID Feed the Future posing for a group photo with MaRCCI staff at Kabanyolo

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3.5.3: The first Secretary- General of the African Universities Alliance (ARUA) Prof. Ernest Aryeetey visits MaRCCI

The first Secretary - General of the African Universities Alliance (ARUA) Prof. Ernest Aryeetey on 16th May 2018 visited Makerere University's Regional Centre for Crop Improvement at Kabanyolo.Prof. Eryeetey who is also former Vice Chancellor, University of Ghana was received by the Centre Director Dr. Richard Edema, Deputy Director Prof. Paul Gibson as well as MaRCCI staff and managers of the university farm. As Secretary-General ARUA, Prof. Aryeetey is expected to drive a collaborative initiative formed by research –intensive universities in Africa to strengthen research and post graduate training on the continent. Prof. Eryeetey hailed MaRCCI's regional training model and collaborative efforts saying, it was in line with ARUA's vision. In his key message, Prof. Eryeetey underscored the need to galvanize thestrength of research -intensive universities to compete in the global knowledge economy through innovation and technology.



Prof. Ereetey interacts with Dr. Richard Edema , Mrs. Martha Muwanguzi and Prof. Paul Gibson on arrival at Kabanyolo.

4.0: KNOWLEGDE TRANSFER AND PARTNERSHIPS

At the national level, several workshops, seminars, demonstrations, exhibitions and conferences involving several stakeholders were successfully held. Our staff and students have engaged in community projects as they put theory into practice and also learn from communities.

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4.1: DRGT & DGGCS conduct Transformative Professional Development Training for early career Lecturers

On 10th Dec 2018 a one-day Professional Development Training Workshop titled, "How to become an effective academic and developing one's full potential as an early career researcher". was launched. The workshop was funded by the UK's Department for International Development (DFID) through the Association of Common Wealth Universities in partnership with the African Academy of Sciences (AAS). It is evident today that the academic path of early young scientist is riddled with many challenges and hurdles. Yet these challenges could actually be transformative opportunities for becoming a competent academic. This training focused on how to get it right in the midst of challenges experienced.

Cognisant of this challenge, DRGT and CAES/department of Georgraphy, Geo-informatics and climatic sciences (GGCS) joined the global drive to empower early career researchers to develop the research leadership skills and optimally contribute to the global discourse on climate change and viable mitigation. DRGT, cardinal mandate is to support the early career Lecturers to acquire the right tools and mindset to champion Transformative research programmes. This was part of a regional effort because for the last 6 years, CAES/GGCS has been the national anchor of the continental research project under the theme "The Climate Impacts Research Capacity and Leadership Enhancement in Sub-Saharan Africa (CIRCLE)". The CIRCLE Programme has adopted the dual approach of supporting individual academics to undertake research while also working with their institutions to develop better professional development systems

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for their researchers. Between 2014-2018, Makerere has hosted close to 100 CIRCLE Visiting Fellows (CVF) specializing in climatic sciences.

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4.2: 18 researchers from 7 Sub-Saharan countries awarded on completion of the First GREAT Spin-off Course

18 researchers from seven (7) sub Saharan countries were on 1st December 2018, awarded Certificates of Attendance by Makerere University following the successful completion of the first GREAT Spin-off course on Gender Responsive Research and Reporting in Agriculture.

The course was organized under a five (5) year (2015-2020) Makerere University (Uganda) and Cornell University (USA) joint certificate program in applied gender training for agricultural researchers program titled, "Gender-responsive Researchers Equipped for Agricultural Transformation (GREAT) funded by the Bill & Melinda Gates Foundation.

The GREAT Spin-off Course was funded by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Institute of Tropical Agriculture (IITA) and the International Center for Tropical Agriculture (CIAT).

The spin-off course, which was the first of the kind, was jointly organized by the College of Agricultural and Environmental Sciences (CAES) together with the School of Women and Gender Studies (SWGS) at Forest Cottages Bukoto-Kampala, from 26th November to 1st December 2018.

The purpose of the training was to offer skills in gender responsive research, tailored to assist agricultural researchers to address gender issues along the design, implementation, evaluation, and communication pathways of their research projects.

The course attracted social scientists and plant breeders working in NARs and Universities on various breeding programs under the Tropical Legumes III project from Uganda, Kenya, Tanzania, Ethiopia, Burkina Faso, Mali, Ghana and Nigeria.

The Tropical Legumes III project (TL-III) is a major international initiative that seeks to develop and deliver seed of improved cultivars of common

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bean, cowpea, chickpea and groundnut at scale to small-holders, while also fundamentally strengthening plant breeding programs to generate increased rates of genetic gains.

Participants were taken through a range of topics including: the importance of gender in agriculture, anchoring gender research questions in research projects, gender responsive plant breeding and setting breeding priorities, principles of quantitative and qualitative gender research, engendering data collection methods, and how to develop gender responsive product profiling tools. After an exhaustive and insightful training, participant teams drew and presented work plans for the next steps towards improving the breeding programs in their respective countries.



Participants posing for a group photo after the opening session

4.3: CAES Book Launch: Conservation and Development in Uganda

The CAES held a public book launch co-hosted by Nature Uganda and the Uganda Poverty and Conservation Learning Group on 26 November ,2018 at the Uganda Museum. The co-edited volume entitled Conservation and Development in Uganda was published by Chris Sandbrook, Connor

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Cavanagh and Dr. David Mwesigye Tumusiime.

Chris Sandbrook is Senior Lecturer in Geography and Director of the Masters in Conservation Leadership at the University of Cambridge, UK. Connor Joseph Cavanagh is a Post-Doctoral Research Fellow in the Department of International Environment and Development Studies (Noragric), Norwegian University of Life Sciences. David Mwesigye Tumusiime is an Associate Professor, School of Forestry, Environmental and Geographical Sciences, Makerere University, Kampala, Uganda, and Director, Makerere University Biological Field Station, Uganda.

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4.4: The 2nd NARO-Mak Joint Scientific Conference successfully ends with 15 point Conference Communique tabled before the Agricultural Minister for policy guidelines.

The 2nd NARO-Mak Joint Scientific conference & 1st Feed the Future Innovation Lab for Nutrition Annual Scientific Symposium successfully ended on 15th November 2018 at the Speke Resort Munyonyo. The four day conference that started on 12th November 2018 under the theme *"Research for Innovative Agri-Food Systems and Nutrition"* was closed by the Minister of Agriculture Animal Industry and Fisheries represented the state Minister for Agriculture Hon. Christopher Kibazanga. The Conference Organising committee represented by Dr. Alice Turinawe tabled a summary of the conference proceedings culminating in a 15 point Communique for policy guidelines.They include:

- Integration of Information and Communication Technology (ICT) in agricultural value chains for detection and management of pests and disease and assessment and manipulation of soil characteristics for appropriate crop management eg use of drones.
- Policy and strategies for enhancing intake of quality and safety food, with emphasis on formulation and/ or implementation of appropriate standards and regulations.
- Supportive policy frameworks for comprehensive nutrition education of both the grassroot urban and rural consumers of agriculture based and other foods and food products backed by market power.

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• Prioritise investments that improve quality of people through nutrition and health diets

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- Strengthen implementation of strategies for reducing post harvest losses and waste along the value chain
- Need for embracing the spirit of multi-sectoral planning and implementation of government development programs along the value chain.
- Provision of adequate and reliable funding to research for timely delivery of technological solutions for the continuously growing and dynamic society needs. Similarly sustainable funding is required for science communication and user education so that results effectively get to the intended beneficiaries. There is need for a paradigm shift in methods of delivering information to farmers and related value chain actors.
- Develop and enact programs for mind frame change for transformation of the youth to actively engage in agri entrepreneurship.
- Enabling policy and strategies for transisting agricultural research so to industrial products via incubation and industrial parks.
- Policy measures to encourage the agro based private sector to support government in funding agricultural research to ensure the sustainability of research funding.
- The need to reconstruct our national extension system that is organic, wholistic, equitable and transformative.
- Need for a model of agriculture that is sensitive to economics, food security, ecology and society issues. Not a one size fit all ie large scale farming may not be appropriate for everybody.
- Need to identify and pick good practices from both the traditional and modern concepts of agriculture and develop a model suitable for African situation. Otherwise the binary concept of traditional vs modern is misleading.

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 The need for eadership/governace in every relevant sector to keep an eye on the evolution of gender and extension concepts and provide for adjudtments as society needs change.

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• Strengthen existing institutions o effectively protect the agricultural sector against counterfeits including inputs especially seeds.

The conference was officially opened on Monday, 12th November 2018 by the Prime Minister of the Republic of Uganda Rt. Hon. Dr. Ruhakana Rugunda who emphasized the need to promote post-harvest handling and value addition to boost Uganda's agri-business and nutritional sector.

A number of issues for policy action came up during the conference. One of these was that under nutrition and obesity in Uganda is a big concern. Under nutrition remains one of the biggest contributors to global child mortality linked to about 45% of deaths among children under the age of five. Meanwhile ten (10) million children are overweight with old people obesity on the rise especially amongst women. This was contained in a key note speech delivered on 13th November 2018, by the former African Union Commissioner for Rural Economy and Agriculture H.E Rhoda Tumusiime .

The other important aspect was on the need to integrate Sex and Gender in agricultural research and development programs. In her keynote address on 15th November, 2018 a Gender Mainstreaming and Training Consultant. Ms. Forough E. Olinga said redressing the balance is key to increasing productivity and reducing poverty.

A policy brief on preventing nutrient loss and waste across the food system was on 13th November, 2018 launched by the State Minister for Northern Uganda who is also Member of Parliament representing Zombo District Women Constituency Hon. Grace Freedom Kwiyucwiny. The policy brief was developed by the Global Panel on Agriculture and Food System for Nutrition – an independent group of influential experts with a commitment to tackling global challenges in food and nutrition security.

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State Minister for Agriculture Hon. Christopher Kibazanga (2nd R) with L-R: Chairman Board of Directors-NARO, Prof. Joseph Obua, The Director General NARO-Dr. Ambrose Agona and Principal, College of Veterinary Medicine, Animal Resources and Biosecurity-Prof. John David Kabasa at the closing ceremony of the 2nd NARO-Mak Conference, 15th November 2018, Speke Resort Munyonyo, Kampala Uganda

4.5: Ugandan Journalists trained on Aflatoxins Communication and Reporting:

About 30 journalists from different media houses in Uganda underwent a two day training on Aflatoxins Communication and Reporting culminating in the establishment of a National Aflatoxin Journalist Network. The network will serve as an advocacy group to enhance public awareness and drive more actions to mitigate aflatoxin contamination of food and feeds.Professor. Archileo Kaaya is the Patron.

The training was sponsored by the Platform for Aflatoxin Control in Africa (PACA), a program of the Africa Union Commission (AUC). This media training was the second of its type that the commission was supporting member states in implementing. The first training took place in Senegal in September 2018.

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The training was officially opened by the Director for Extension in the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) Mrs. Beatrice Byarugaba on 29th October, 2018 at Fairway Hotel in Kampala, attended by the AUC –PACA Program Officer Ms. Wezi Chunga – Sambo, Chair, Aflatoxin Technical Working Group Prof. Archileo Kaaya and members of the PACA Seretariat and the Uganda Mycotoxin Mitigation Steering Committee among others.

The journalists received Certificates of participation signed by the Africa Union Commission Officer in Charge and Head, Rural Economy and Agriculture Dr. Janet Edeme after induction through a series of topics on aflatoxins and responsible reporting. Topics included Aflatoxins; their impacts on public health, trade and Agriculture at national and continental levels; Aflatoxin stakeholders and their roles; Aflatoxin Research findings with emphasis on Groundnuts; Media /Research interface on Aflotoxin information packaging; Interventions by AU-PACA and a summary of the C-SAAP Report on the country among others.



Journalists posing for a group photographs after the training

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4.6: Makerere University-Uganda Industrial Research Institute in partnership for potato Communities

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Makerere University struck a partnership deal with Uganda Industrial Research Institute (UIRI) in a Community Action Research Programme (CARP+) to strengthening synergies and working relationships of the University (students and researchers) and the farming community to enhance the capacity of potato value chain actors. The initiative is funded by the MasterCard Foundation through RUFORUM. Working closely with UIRI, a government of Uganda incubation facility, the CARP+ Project is screening the major potato varieties grown in Uganda for processing qualities.

Located in the cultivated terraces and rolling hills of Kabale in Southwestern Uganda, the UIRI, in addition to the having technical personel in potato processing has an incubation plant with diverse and modern equipment and machines such as peelers, slicers, blanching, fryers, and driers, to produce a range of potato-based value added products such as crisps, French fries and potato flour. Having established the processing properties of the existing potato varieties in Uganda, the Makerere University-UIRI partnership will develop and test innovative potato-based value added products with potential for commercialisation.

One of the main research outputs expected from the CARP+ Project is characterization of the locally grown varieties in Uganda. This will provide the unavoidable information on the physicochemical and processing properties of these varieties, the cornerstone on which value addition and processing is based. Subsequently, the demand for and utilisation of the locally grown potato varieties will eventually increase, postharvest losses will reduce and the farm supply of potato will stabilise. The information generated will also benefit other researchers, processors in product development, market analysis and investment in other potato-based products

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CARP+ Team visiting UIRI Incubation plant in Kabale

4.7 MUARIK holds the 11th Seeds of Gold Farm Clinic

Makerere University Agricultural Research Institute Kabanyolo (MUARIK) held the 11th the Seeds of Gold Farm Clinic on 1st September 2018 on the theme, "Climate Smart Farming". The training was a partnership between MUARIK and the Daily Monitor Newspaper Publication sponsored by subscriptions (shs.70, 000 per participant) and supported by both public and private institutions such as Post Bank, the Monitor Publications, Heifer International, aBi Trust and Counterfeit Network among others. This year, the training focused on several enterprises namely; Backyard, Passion fruits and Green house farming, Bananas, Dairy, Goat Rearing and Fish Framing. Topics included Pastures, Feeds, Silage and Hay, Postharvest handling, Value addition, Sustainable land management and Agribusiness Aspects and economics.

4.8: Workshop for ACCELERATE Initiative held

CAES together with partners under the ACCELERATE Initiative have held a one day workshop and round-table conversation on Youth, Education and Innovation in development of sustainable Agribusiness. The workshop was opened by the Deputy Director Directorate of Research and Graduate Training (DRGT) in charge of Administration Dr. David Owiny at the Makerere University Senate building on 17th August 2018.

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ACCELERATE is a multi-stakeholder partnership for innovation, cocreation and enabling youth to build sustainable agribusiness informed by evidence based research and with a global presence. The aim of the workshop was to initiate public private partnerships for blended learning, which should identify the causes, consequences and expected responses for improving the capacity and competitiveness of the youth in agri-food value chains and solving the challenges of unemployment in Uganda with a global perspective.

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The workshop was attended by members from Makerere University, the Swedish University of Agricultural Sciences, the Uganda Agribusiness Alliance, the Agripreneurship Alliance (Switzerland), Gulu university, RUFORUM, Rural Community in Development (RUCID), The Open Impact Institute, representatives from the private sector, development agencies, youth agripreneurship programs among others.



Dr. Fred Kabi (coordinator (R) with some participants after the opening session

4.9: Participation in the annual Source of the Nile National Agricultural Show

The College participated in the annual Source of the Nile National Agricultural Show and Trade Fair held in Jinja. CAES is a major exhibitor at this show with permanent premises at the show grounds. The College provides resource persons to facilitate the training sessions organized for

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farmers. This year 2018 CAES emerged the overall best in innovations ranking Makerere University as the best training institutions in research and innovations. This year, the show was coordinated by Ms. Elizabeth Balirwa (see photo extreme R) greeting Hon.Min MAAIF Vincent Ssempijja and the Vice President Edward Ssekandi on their assessment tour.



4.10: MAAIF and CAES conduct a series of refresher courses for extension officers fromDistrict Local Governments

The Directorate of Agricultural Extension services through the Agricultural Technology and Agribusiness Advisory Services (ATAAS) project of MAAIF organized a series of refresher training for technical staff from District Local Governments in the areas of agribusiness development, appropriate postharvest technology and safe use of agro-chemicals and fertilizer optimization in modern crop husbandry among others. The main objective of the training was to provide agricultural extension field staff with technical skills and functional knowledge to successfully and sustainably implement project activities in efficient and effective manner. The training was delivered by the staff of CAES under the supervision of the College Principal at the Continuing Agricultural Education Centre (CAEC) coordinated by Dr. Bernard Obaa.

50 Agricultural engineers from the local governments and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) on 15th January 2018 converged at the Continuing Agricultural Education Centre at MUARIK

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for a two weeks refresher training on Micro Irrigation on increased water use efficiency in agricultural production.

Training also kicked off on the same day 15th January 2018 on sustainable land management at the Grand Global hotel. These trainings were part of a series of trainings under the new National Agricultural Policy (2016), where universities are mandated to provide training for extension staff in Uganda. The university received a total of 2.66bn shillings through MAAIF to train up to 1200 extension workers for a period of three months that was supposed to have ended in December, 2017.



Agricultural engineers posing for a group photograph at CAEC

4.11: Workshop to end project on small holder water harvesting technologies held

The stakeholders workshop to mark the end of the project project titled, "Promotion of Rainwater harvesting and low-head smallholder irrigation systems for sustained market responsive vegetable production in mid-western Uganda," was held at KonTIK Hotel in Hoima on 22nd May 2018. The project was spearheaded by Dr. Joshua Wanyama from the School of Food Technology Nutrition and Bio engineering funded by the World Bank through NARO Competitive Grants

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Scheme from 2016-2018. Project collaborators included Agricultural Engineering and Appropriate Technology Research Centre of the National Agricultural Research Organization (AEATREC-NARO) and Hoima District Local Government. The project aimed at promoting suitable rainwater harvesting and low-head smallholder irrigation systems for all year round consistent commercial production of traditional and high value vegetables for collective marketing.



PI Dr. Joshua Wanyama speaking during the workshop. Bottom: Participants a group photo after the workshop

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4.12: SCIFSA Funds the Mak Run

The Intra-Africa Academic mobility Project: Partnership for Training Scientist in Crop Improvement for Food Security in Africa (SCIFSA) funded by the EU sponsored 32 people to participate in the Mak Run on Sunday 25th March 2018. Of the 32 tickets, 20 were for students and 12 for staff. The 20 for students cost shs. 15,000 each and the 12 for staff cost shs. 25,000 each. Proceeds from the MakRun are aimed at supporting the Makerere University Endowment Fund (MakEF) inaugural project, the "Students Centre", estimated to cost UGX15 billion.

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The EU under its Intra-Africa Academic Mobility Scheme has provided funding to support training of graduate students in African universities. In this mobility programme five African partner institutions and one EU technical partner will collaborate in the training of professionals to achieve sustainable fisheries management and aquaculture resources that shall lead to increased fish production and enhanced food and nutritional security, and hence, improved livelihood and household revenue.

A total of 24 Masters (6 credit seeking, 18 degree-seeking) and 12 Doctorates (4 credit seeking, 8 degree-seeking) will be trained in the thematic areas of Plant breeding and seed systems, Biotechnology, seed science and technology, Agronomy and Vegetable crop production, Pesticides and plant protection and Plant and microbial technology.

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The project will provide fellowships for full degree programs (PhDs and MSc) as well as short-term mobility for students and staff and will run from 1st November 2017 until 31st October 2022.

The project is expected to contribute to; a) improved skills and competences of academic staff in, research, training and supervision, b) enhanced quality of graduate training that will lead to innovative and fit-for-purpose professionals in Crop production improvement c) improved skills and competences of administrative staff in implementing international mobility. Subsequently, a procedure/platform to support the harmonisation and internationalisation of Crop improduction programmes among African Universities shall be achieved.

4.13: Annual CAES student's agricultural exhibition held

The college students' council organized an annual agricultural exhibition on the 14th-16th March 2018 at Makerere University freedom square under the theme *"Consolidating Youth Engagement in Agriculture and Technology towards Making Uganda a Global Food Basket Amidst Climatic Change."*. The main objective of the event was to provide a platform for youth in agribusiness, ICT and other stakeholders in agricultural sector to showcase innovations and technologies vital for value chain development.



CAES student explains the mashroom farming techniques to Chief Guest

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4.14: MaRCCI holds inception meeting

The Makerere University Regional Centre for Crop Improvement (MaRCCI) held a one week Inception Meeting at Speke Resort Munyonyo starting 26th February, 2018 to share strategies and operational plans. The event attracted participants from the Government, the World Bank, Inter University Council of East Africa, MaRCCI International Advisory Board as well as representatives from partnering institutions. The meeting was crowned by a cocktail dinner at the Makerere University Agricultural Institute Kabanyolo (MUARIK).



Some of the participants during the inception meeting

4.15: Participation in Campus France Day exhibitions

The college participated in the exhibition to mark the Campus France Day Launch at Makerere University Freedom Square during which Anena Juliet, 23, a fourth year BSc. Agriculture student won a French scholarship award to study in France. The French Ambassador to Uganda, H.E Stephanie Rivoal awarded Anena that scholarship for her exemplary presentation skills on the tissue culture technology. The event was organized by Makerere University in partnership with the French Embassy in Uganda.

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Representatives from the French Embassy, GoU and Makerere during the event

4.16: Seminars / Public Lecturers/Debates / Panel Discussions

Table 9: Summary of Seminars / Public Lecturers/Debates / Panel Discussions

Date	Title	Presenter
Friday, 25 May 2018	Concepts of Sustainable Intensification for Improved Food and Nutritional Security	P.V. Vara Prasad, Kansas State University
Wednesday, 14 February 2018	Genome Editing for Virus Resistance using CRISPR/Cas 9 Technology: A case of Cucumber potyvirus	Dr. Amit Gal-On - Agricultural Research Organization ARO, Department of Plant Pathology and Weed Research, Israel
Thursday, 8 February 2018	Engendering an Inclusive Africa Under Climate Change: The Power of Innovative Volunteerism	Dr. Richard Munang, UN Environment Regional Climate Change Coordinator for Africa
Tuesday, 30 January 2018	Efficient and Sustainable Intensification in Dairy Cows: Is it possible?	Dr. Emiliano Raffrenato

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Tuesday, 30 January 2018	Poor Productivity and Livestock Losses: Who do we blame?	Dr. Giulia Esposito		
Friday, 13 October 2017	Changes in Soybean Cultivars Over 85 Years of Selection in the USA	Prof. Brian Diers, Department of Crop Sciences, University of Illinois, USA		
Friday, 2 June 2017	The Impact of Climate Change on Agriculture	Dr. Revocatus Twinomuhangi, Makerere University		
Wednesday, 25 January 2017	"P-value: The proverbial straw for a drowning researcher	Dr. Thomas Odong and Assoc. Prof. Margaret Nabasirye, College of Agricultural and Environmental Sciences, Makerere University		

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5.0: SUPPORT ENVIRONMENT

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5.1: Human resources and capacity building

5.1.1: Academic staff qualifications and ranks

The College has a total academic staffing of 204. Of these, 24 are full professors (23 male and 1 female), 29 Associate Professors (23 male and 6 female), 34 Senior Lecturers (26 male and 8 female), 51 Lecturers (36 males and 15 female), 35 Assistant Lecturers (27 males and 8 female) plus 30 part timers.

Table 10: Staff qualifications and Ranks in CAES

College		Professor	Assoc. Professor	Senior Lecturer	Lecturers	Assistant Lecturer	Part timers	Total
CAES	PhD	24	29	34	52		30	204
	Master					35		

Table 11: Academic staff distribution by department, rank and gender as of Aug 2018

Department/	Professors		Assoc. Professors		Senior Lecturers		Lecturers		Assistant Lecturers		Total	
Gender	М	F	М	F	М	F	М	F	М	F	М	F
DAP	5	0	8	2	5	2	12	2	4	2	34	8
DANRE	5	1	0	0	2	1	5	3	1	1	13	6
DEIS	1	0	2	2	1	2	5	1	3	2	12	7
FBT	5	0	5	1	5	1	2	1	6	1	23	4
DEM	3	0	2	0	2	1	5	0	4	2	16	5
GGCCS	1	0	4	0	4	0	2	2	4	0	15	2
FTN	3	0	1	1	2	1	1	3	3	0	10	5
ABE	1	0	2	0	6	0	3	1	0	1	12	2
Total by gender	24	2	25	6	27	8	35	13	25	9	135	39
Total by rank	26		31			35	48		34		174+ part ti 204	30 mers =

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5.1.2: Appointments / Promotions / Nominations

5.1.2.1: Academic staff promotions

At its 585th meeting held on 3rd December, 2018, the Appointments Board made the following decisions.

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SN	Name	Post considered	Department	Decision
1	Dr. Robert Fungu	Lecturer	Food Technology and Nutrition	Appointed on probation
2	Dr. Denis Male	Lecturer	Food Technology and Nutrition	Appointed on probation
3	Dr. Ephraim Nuwamanya	Lecturer	Agricultural Pro- duction	Appointed on probation
4	Dr. Losira Nasirumbi	Lecturer	Extension and Innovation Studies	Appointed on probation
5	Dr. Sarah Akello	Lecturer	Extension and Innovation Studies	Appointed on probation
6	Dr. Dickson Biryomamaisho	Assist. Lecturer	Extension and Innovation Studies	Appointed on 4 year contract
7	Ms. Elizabeth Ahikiriza	Assist. Lecturer	Agribusiness and Natural Resource Economics	Appointed on 4 year contract
8	Mr. Francis Okori	Assist. Lecturer	Agricultural and Bio systems engineering	Appointed on 4 year contract
9	Ms. Prossy Nakawuka	Assist. Lecturer	Agricultural and Bio systems engineering	Appointed on 4 year contract
10	Mr. Joseph Waswa	Assist. Lecturer	Agricultural and Bio systems engineering	Appointed on 4 year contract
11	Mr. Sam Cherotech	Assist. Lecturer	Agricultural and Bio systems engineering	Appointed on 4 year contract
12	Mr. Tonny Obua	Assist Lecturer	Agricultural Production	Appointed on 4 year contract
13	Dr. Henry Semakula Musoke	Lecturer	Geography, Geo informatics and Climatic Sciences	Appointed on Probation

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At its 589th meeting held on 19th December, 2018, the Appointments Board made the following decisions.

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SN	Name	Post considered	Department	Decision
1	Mr. Ronald Mukalazi	Adminstrative Assistant	University Service	Appointed
2	Ms. Pauline Kyarisima	Adminstrative Assistant	University Service	Appointed
3	Mr. Peter K Walusimbi	Driver	University Service	Appointed
4	Mr. David Ikomo	Assist Procurement Officer	Procurement and disposal unit	Appointed
5	Mr. Dismas Niyonzima	Assist Procurement Officer	Procurement and disposal unit	Appointed

Termination, Dismisal, suspension and reinstatement

At its 580th meeting held on 19th, 20th, 21st, 27th 29th November, 2018, the Appointments Board made the following decisions.

SN	Name	Post consid- ered	Department	Decision	Reason
1	Ms. Sarah Alobo	Assist. Lecturer	Agribusiness and Natural Resource Economics	Dismissed	Abscodment
2	Mr. Gilbert Wuthman	Teaching Assistant	Forestry Biodiversity and Tourism	Terminated	Abscodment
3	Dr. George Omiat	Assist. Lecturer	Agribusiness and Natural Resource Economics	Reinstated	Went for studies without permission
4	Dr. Haroon Sseguya	Lecturer	Agricultural Extension and Innovation Studied	Dismissed	Abscondment
5	Ms. Stella Maris Sendagi	Assist. Lecturer	Agricultural and bio systems engi- neering	Dismissed	Abscondment
6	Mr. Muhamad Bukenya	Assist. Lecturer	Agribusiness and Natural Resource Economics	Suspension lifted and warned	Abscondment
7	Mr. James Kisoro	Web Administrator	CAES	Dismissed	Abscondment

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At its 572 nd	meeting held	on 14 th	September,	2018,	the A	Appointme	ents
Board made	the following c	lecision	IS.				

SN	Name	Post considered	Department	Decision
1	Dr. Hedwig Acham	Senior Lecturer	Food Technology and Nutrition	Promoted
2	Dr. Nelson Turyahabwe	Professor	Extension and Innovation Studies	Promoted
3	Dr. Ivan Muzira Mukisa	Assoc. Professor	Food Technology and Nutrition	Promoted
4	Dr. Patrick M usinguzi	Lecturer	Agricultural Production	Promoted
5	Dr. Narisi Mubangizi	Lecturer	Extension and Innovation Studies	Promoted
6	Dr. Abraham Mwesigye Rubatina	Lecturer	Forestry, Biodiversity and Tourism	Promoted
7	Dr. Simon Kizito	Lecturer	Forestry, Biodiversity and Tourism	Promoted
8	Dr. Stephen Lwasa	Assist Lecturer	Agricultural Resaerch Institute	Redesignated from Farm Manager
9	Ms. Ellen Kayendeke	Assist Lecturer	Environmental Management	Confirmed in the University Service
10	Dr. Robert Cyrus Okello	Lecturer	Agricultural Production	Confirmed in the University Service
11	Dr. Godfrey Taulya	Lecturer	Agricultural Production	Confirmed in the University Service
12	Dr. Emmanuel Opolot	Lecturer	Agricultural Production	Confirmed in the University Service
13	Ms. Mary Nantale	Administrative Secretary I	College of Agricultural and Environmental Sciences	Confirmed in the University Service
14	Mer. Bonny Balikuddembe	Principal Technician	Chemistry	Promoted
15	Mr. David Kirya	Chief Technician	Agricultural Production	Promoted
16	Mr. Gerald Muwanga Kyeyune	Chief Technician	Agricultural Production	Promoted
17	Mr. Stephen Katende Serunjoji	Principal Technician	Agricultural Production	Promoted
18	Ms. Lydia Kakooza	Principal Technician	Agricultural Produc- tion	Promoted

19	Mr. Robert Natumanya	Principal Technician	Agricultural Produc- tion	Promoted
20	Mr. Emmanuel Mutebi	Senior Technician	Agricultural Produc- tion	Promotion
21	Mr. Joseph Balamaze	Chief Technician	Food Technology and Nutrition	Promoted
22	Mr. Emmanuel Okalany	Principal Technician	Food Technology and Nutrition	Promoted
23	Ms. Gorretti Aguttu	Principal Technician	Agribusiness and Natural Resource Economics	Promoted

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At its 569th meeting held on 16th July 2018, the Appointments Board made the following decisions.

SN	Name	Post consid- ered	Depart- ment	Decision
1	Dr. Hussein Kivumbi Balimunsi	Senior Lecturer	ABE	Promoted
2	Dr. Susan Balaba Tumwebaze	Assoc. Professor	FBT	Promoted
3	Dr. Bernard Obaa	Senior Lecturer	DEIS	Promoted
4	Dr. David Mfitumikiza	Senior Lecturer	GGCS	Promoted
5	Dr. Gracious Malton Diiro	Senior Lecturer	ANRE	Promoted

At its 562nd meeting held on 24th March 2018, the Appointments Board made the following decisions.

SN	Name	Post considered	Department	Decision
1	Dr. Jim Ayorekire	Senior Lecturer	FBT	Promoted
2	Dr. Gabriel Karubanga	Lecturer	DEIS	Promoted
3	Dr. Peter Tumutegyereize	Lecturer	ABE	Promoted
4	Prof. Johnny Mugisha	Dean	SAS	Appointed
5	Dr. Alex Tatwangire	Lecturer	FBT	Confirmed in the University Service

At its 561st meeting held on 20th February 2018, the Appointments Board made the following decisions.

SN	Name	Post considered	Department	Decision
1	Dr. Jackson GM Majaliwa	Professor	GGCS	Promoted
2	Dr. Allan John Komakech	Senior Lecturer	ABE	Promoted
3	Dr. Ahamada Zziwa	Assoc. Professor	ABE	Promoted
4	Dr. Arthur Kajungu Tugume	Assoc. Professor	ABE	Promoted
5	Dr. Joshua Wanyama	Senior Lecturer	ABE	Promoted
6	Dr. Frank Mugagga	Assoc. Professor	GGCS	Promoted

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At its meeting held on 15th August 2017, the Appointments Board took the following decisions

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SN	Name	Post considered	Department	Decision taken
1	Dr. Allan John Komakech	Lecturer	ABE	Promoted
2	Dr. Alex Nimusiima	Lecturer	GGCS	Promoted
3	Dr. Filda Ayaa	Lecturer	ABE	Appointed
4	Dr. Frank Mugizi	Assist. Lecturer	GGCS	Confirmed in the Uni- versity Service
5	Mr. Geoffrey Sabiiti	Assist. Lecturer	GGCS	Confirmed in the Uni- versity Service
6	Mr. Abraham Rubatina Mwesigye	Assist. Lecturer	FBT	Confirmed in the University Service
7	Dr. David Mutetika	Assoc. Professor	DAP	Contract Renewed
8	Dr. B.E Owor	Lecturer	DAP	Resignation accepted
9	Prof. Noble Banadda	Head	ABE	Appointed
10	Mr. John Tumwijuke	Oxman	ABE	Confirmed in theUniversity Service

At its meeting held on 7th August 2017, the Appointments Board took the following decisions

SN	Name	Post considered	Department	Decision taken
1	Dr. Paul Isolo Mukwaya	Senior Lecturer	GGCS	Promoted
2	Dr. Daniel Waiswa	Senior Lecturer	GGCS	Promoted
3	Dr. Edward Nector Mwavu	Assoc. Professor	FBT	Promoted
4	Dr. JS Tenywa	Professor	DAP	Promoted

5.1.2.2: Administrative staff promotions

At its meeting held on 15th August 2017, the Appointments Board took the following decisions

Name	Position Held	Department	Position promoted to
Grace Apili	Administrative Assistant	Academic Reg- istrar	Senior Administrative Assistant
Hellen Mirembe	Administrative Assistant	Academic Registrar	Senior Administrative Assistant
Joseline Akatukiza	Assistant Accountant	Finance Department	Accountant
Stephen Lwasa	Assistant Farm Manager	Kabanyolo	Farm Manager

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Redesignation of administrative staff

SN	Name	Post considered	Department	Decision taken
1	Ms. Hawa Harriet	Principal Human Resource Officer	Principal's Office	Promoted
2	Ms. Jane Anyango	Principal Communication Officer	Principal's Office	Promoted

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5.1.2.3: Election of the new Dean SFTNB and SFEGS

The election of the new Dean for the School of Food Technology, Nutrition and Bioengineering was successfully conducted on 29th November, 2018. The outgoing Dean Prof.John Muyonga had served for two terms (8 years) as Dean ending December 31, 2018. We congratulate all the candidates for participating in the election whose results were are as follows;

Total number of Voters;	29
Total votes cast	25
Proxy votes	03
Abstain	01
Number of candidates	02
Candidate 1 Dr Abel Atukwase No of Votes	15
Candidate 2 Prof Noble Banada No of Votes	13

According to the votes cast, Dr. Abel Atukwase takes the position of Dean School of Food Technology, Nutrition & Bio-John Engineering replacing Prof. Muyonga. Nominations for the Dean elect School of Forestry, Environmental and Geographical sciences were sent out and only one candidate Prof. Fred Babweteera showed interest passing as unopposed. Prof. Fred Babweteera replaces Prof. Mnason Tweheyo who has also served for two terms (8years) ending December 31, 2018.

5.1.3: Prizes, Awards and Recognitions

5.1.3.1 Prof. Archileo Kaaya wins AU *Award 2018* as Agent of Change for aflatoxin control

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Senior nutritionist Prof. Archileo Natigo Kaaya won the African Union Award 2018 as agent of change for aflatoxin control in Africa in the category of Research and Technology. Prof. Kaaya received the Certificate of recognition from the Commissioner for Rural Economy and Agriculture of the AU at the Third Partnership for Aflatoxin Control in Africa Partnership Platform Meeting, held on 2 to 4 October 2018, in Dakar, Senegal. Archileo Kaaya is a Professor of Food Science and Head, Department of Food Technology and Nutrition (FTN). His primary research interest areas are Mycotoxins in foods and feeds, Postharvest Technology of fresh and on farm processed produce and Community Nutrition. He has over 35 Research items on aflatoxins, 5,360 Reads and 368 Citations

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Prof. Archileo Kaaya, the AU Agent of Change for Aflatoxin Control Award Winner 2018 displaying the award during the launch of the National Action Plan for Aflatoxin control on 31st October 2018 at Serena Horel.

Aflatoxins, are harmful substances produced by fungi in food. The outbreak comes as surprise for many due to lack of information. The patients have symptoms like abdominal pain, diarrhoea, vomiting, ascites and jaundice and these are similar to those associated with acute aflatoxin poisoning.

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In a bid to save lives that would be lost to liver cancer and a host of many diseases as well as disorders caused by aflatoxins, the African Union Commission enacted a continental scorecard to help monitor the progress made by different countries in controlling aflatoxins.

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5.1.3.2: Prof. Noble Banadda wins the Pius XI Gold Medal 2018 for his scientific research

Prof. Noble Banadda became the first African to scoop the *Pius XI Golden Medal Award 2018.* The Holy See, Pope Francis personally presented the award to Banadda for his Scientific Excellence and publication on 12th November 2018 at the Vatican, Rome. Noble Banadda is a Professor of Agricultural and Biosystems Engineering and Chair, Department of Agricultural and Biosystems Engineering (ABE). His primary areas of interest are Mathematical modeling; Food Processing Engineering; Waste Engineering; Renewable Energy; Chemical reactor design and optimization.

In waste management research, Banadda is ranked 35th globally and 2nd in Africa according to Google Scholar rankings. He has worked on projects ranging from capacity building in Engineering in Africa, solid waste management in slums, and optimization of bio resources recovery and use. Major discoveries at Makerere University include:

- Invention of the solar powered irrigation pump for small scale farmers,
- Designing the cost effective Multipurpose farmers tractor -MV Mulimi (for ploughing, pumping water for irrigation, transportation, threshing and hauling maize and phone charging);
- Coming up with a new technology of making diesel fuel from hard plastics for motor vehicle engines, generators and lighting in the house;
- Recycling agricultural waste mainly bamboo waste into vinegar and other products

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The Pope handing over the Golden Award to Prof. Noble on 12th November 2018 at the Vatican

The Pontifical Academy of Sciences was founded on 28 October 1936 by the Holy Father Pius XI, to honour pure science, wherever this may be found, to ensure its freedom, and to support the research essential for the progress of applied science.

The Pius XI Gold Medal was established on 28 October 1961 by His Holiness John XXIII to acknowledge outstanding scientific merit in the field of the natural sciences achieved by a young scientist. It was named after Pius XI who, in 1936, restored the Academy that had originally been founded by Federico Cesi in 1603, and gave it its international and global character.



5.1.3.3: Prof. Phinehas Tukamuhabwa wins the UBBC Biotechnology Award 2018

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Plant breeder Prof. Phinehas Tukamuhabwa won the Biotechnology Award 2018 during the first Annual Biotechnology Awards ceremony by the Uganda Biotechnology and Biosafesty Consortium (UBBC) on 19th September 2018. The award was in honor of his immense contribution to socio- economic development through biotechnology, scientific research and innovations.

Prof. Tukamubwa's research thrust is in Genetics of resistance to soybean rust disease and development of varieties that are resistant to soybean rust, groundnut leaf miners and Adzuki bean bruchids. These efforts are integrated with adaptation of soybean genotypes to farmers' conditions and research on soybean seed systems.

He is pioneering the development of glyphosate tolerant soybeans in Africa, in containment at Makerere University. He has spearheaded the development of six soybean varieties (Maksoy 6N, Maksoy 5N, Maksoy 4N, Maksoy 3N, Maksoy 2N, Maksoy 1N, Namsoy 4M, Namsoy 3 and Nam2) and the climbing bean varieties (Nabe 12C, Nabe 9C, Nabe 8C, Nabe 7C and Nabe 6C) all widely grown in Uganda and in the region at commercial level.



AU Award winner-Prof. Phinehas Tukamuhabwa

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5.1.3.4: Mak ranked the best training institutions during the 26th Source of the Nile Agricultural Show and Trade Fair

Makerere University won a prize and a certificate as the best training institutions in innovations during the 10 days agricultural show held on 13-22 July, 2018. The exhibitions were graded in 10 categories of rankings and the judging and evaluation team staterd from 13th to 22nd July and awards given on 23rd July. The categories included heavy machinery, seed companies, district farmer institutions, production companies, National research institutes, Agriculture line ministries, NGOs, finance and banking institutions, donor institutions, international exhibitors and training institutions where Makerere University emerged the winner. Each category had its winner and runner up. The function was presided over by the Minister of Agriculture, Animal Industry and Fisheries, Hon. Vincent Sempija. The exhibitors were earlier visited by the Vice President Hon Edward Ssekandi.



The CAES presented 35 exhibitors (7 senior staff, 18 students and 10 technicians) with different innovations and technologies. The Minister credited CAES for availability, smartness, serious commitment, readiness to give technical advice and practical demonstrations.

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The best innovation packages for show casing to the Vice President included the livestock innovations (alternative livesock feeds mainly maggots and earthworms for animal feeds and other uses); Innovations in crop production (with emphasis on soil testing and testing organic products for export market); Crop protection which include virus indexing and production of clean planting materials; Coffee Value chain development and diversification. Others that were of interest to the ministers entourage were the soybeanaccording to the evaluators included the KeBELA biosensor, the Mak soy varieties, the earthworm and maggot production technology for poultry feeds and the soil testing kit.

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Due to the high demand from farmers and other stakeholders, the parliamentary committee of agriculture and the minister resolved to hold atleast two national agricultural exhibitions per year. To operationalise that resolution, the minister announced that the second national exhibition will take place from 7th -17th December 2018 focussing on irrigation and agricultural mechanization. Makerere University was urged to endovour to attend and exhibit the innovations especially small holder farmer irrigation and mechanization technologies which the public is yearning for increased production and productivity.

5.1.3.5: Nomination and Award of an Honarary Doctorate of Laws to the Late Ryoichi Sasakawa

At its Academic Board Meeting held on 21st September, 2017, the CAES considered and recommended the Late Ryoichi Sasakawa for the award of a Post Humus Honorary Doctor of Laws of Makerere University basing on his key contributions and achievements to nations and humanity. The Late Roychi Sasakawa was represented by one of his foundation board members during the special University congregation held on 9th August, 2018 presided over by the Chancellor, Prof. Ezra Suruma. He was particulary recognized for the creation of the Nippo Foundation, global fight

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against leprosy, building global networks for the youth and leaders, initiating the Green Revolution in Africa among others significant contributions. Following Ryoichi Sasakawa's death in 1995, his son, Yohei Sasakawa took over his father's philanthropic work in earnest, fighting for people affected by several emergencies. He was therefore unable to personally attend the honorary award ceremony. Receiving the award on behalf of the family, the Chairperson Sasakawa Africa Association (SAA) and Sasakawa Africa Fund for Extension Education (SAFE) Prof. Ruth Oniang'o profusely thanked Makerere University for honouring Ryoichi Sasakawa.



Prof. Ruth Oniang'o (Left) displays the Late Ryoichi Sasakawa's Honorary Doctorate of Law Award, shortly after receiving it from the Chancellor-Prof. Ezra Suruma (Right)



Orators of the day, Principal CAES-Prof. Bernard Bashaasha (L) and CHS' Prof. Sarah Kiguli (C) with the Principal CHS-Prof. Charles Ibingira (R)

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5.1.3.6: The Best performing science student presented during the 68^{th} graduation

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The CAES presented the best Performing Science student with CGPA of 4.94 during the 68th graduation ceremony held on 16th-19th, January 2018. Mr. Odongo Brian Boniface, a Bachelor of Science student in Food Science and Technology, in absence scooped a prize of a plaque and One million shillings. Mr. Odongo's prize was handed over by the Chairman Makerere University Convocation Dr. Tanga Odoi through the Makerere University Chancellor, Prof. Ezra Suruma to the Principal CAES Prof. Bernard Bashaasha.

5.1.3.7: PhD student Halasi Gidongo won the best student Abstract Award in USA.

Our own CAES PhD student Halasi Gidongo Zech has won the best student Abstract Award from Las Vegas, USA. Gidongo was attending a World Aquaculture Society Conference which started on 19th-22nd February 2018. The abstract was selected among the pool of close to 80 students who submitted to the World Aquaculture Society.

Halasi Gidongo is a PhD Agricultural Economics student in the Department of Agribusiness and Natural Resource Economics, School of Agricultural Sciences, CAES. He is doing research on Fish Consumer Behaviour in Uganda. He is supervised by Assoc. Prof. Thoedora Hyuha who was also present at the conference and Assoc. Prof. William Ekere. The other members of Postal doctoral Committee are Dr. Gabriel Elepu and Dr. Peter Walekhwa.

Gidongo is the 3rd student in row who have won awards under the supervision of Assoc. Prof. Theodora Hyuha. Mercy Kawala won an award as the best young scientist under 30 during the Great Lakes Conference early last year 2017, and Diana Asero won as the best presenter in June in World Aquaculture Society conference held in Cape town, South Africa.

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5.1.3.8: CAES student gets a French scholarship award at Campus France Day Launch

Ms. Anena Juliet, 23, a fourth year BSc. Agriculture student on Tuesday 30th January 2018 scooped a French scholarship award to study in France.

The French Ambassador to Uganda, H.E Stéphanie Rivoal awarded Anena the scholarship for her exemplary presentation skills on the Tissue Culture technology during the exhibition to mark the Campus France Uganda Launch at the Makerere University Freedom Square. The event was organized by Makerere University in partnership with the French Embassy in Uganda. It was officiated by the First Lady and Minister of Education represented by the Minister in charge of General duties in the office of the Prime Minister Hon. Mary Karooro Okurut. The launch also involved the French Ambassador to Uganda Stephanie Rivoal, the Chairperson of Makerere University Council Eng. Dr. Wan Etyem, the Vice Chancellor represented by his deputy in charge of Academic Affairs and other dignitaries, French Companies, staff and studentsamong others.



Ambassador Stephanie Rivoal poses with Anen Juliet after announcing her as best presenter

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5.1.3.8: Best 2018 Agricultural engineering student offered internship in India

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Shona, the Best 2018 Agricultural engineering student was offered internship in Chennai Engineering Solutions facility in India

5.1.3.9: CAES honours three (3) Professors for their distinguished services to Makerere

Three professors at the CAES were on Friday 14th December, 2018 honored for their distinguished services offered to Makerere University after serving in leadership positions for many years. Prof. Mnason Tweheyo and Prof. John Muyonga were recognized for serving as Deans for the past 8 years since the university turned collegiate in 2011 in the School of Food Technology, Nutrition and Bioengineering and the School of Forestry, Environmental and Geographical sciences respectively. Prof. Phinehas Tukamuhabwa was honored for serving as Director Makerere University Agricultural Research institute from 2014 to 2018.

The ceremony held at the Forestry Gardens Quadrangle was presided over by the 1st Deputy Vice Chancellor (Academic Affairs) Dr. Umar Kakumba. Dr. Kakumba appreciated the great work done by Prof. Muyonga especially the commercialization of the School of Food Technology, Nutrition and Bio engineering and agro processing at the Food Technology and Business incubation centre.

Kakumba credited Prof. Tweheyo for expanding the school of forestry, playing a role in entrepreneurship and building programs in terms of protecting natural resources, adding value and making them more important to the nation; and positively transforming human resources in different aspects like climate change.

Dr. Kakumba also thanked Prof. Tukamuhabwa for leading the Makerere University Agricultural institute for four years and facelifting it to an admirable institute not only in research but other mandates like production and outreach.

The Principal CAES Prof. Bernard Bashaasha applauded the outgoing

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professors for their great service to the university. "They have served with courage and acted with love, led with respect, integrity and passion. They have been value adding men and we are proud to have had them and hopefully, we will be guided in their way of management." Prof. Bashaasha stated.

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5.1.4. Library/E -Resources

The CAES library provides a number of services for the library users;

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- 1. Electronic access to library resources
- 2. Textbook lending services
- 3. Reference services
- 4. Information Literacy for students and staff
- 5. Selective dissemination of information
- 6. Reference Management trainings

Since 2014, the library has obtained number e- resources installed on the institutional server to allow a wider access through the LAN as tabulated below.

Table 12: CAES Library E-Resources

No.	DATABASE	USERNAME	PASSWORD	URL	
1.	Research4Life Resources:	No username	No password	http://login.	
	AGORA (Access to Global Online Research in Agriculture)	IP restricted. (No need for logins when using Makerere network)	requirea. requirea. r C	requirea.	org/tacgw/App- Portal/
	OARE (Online Access to Research in the Environment)				
	Hinari (Research in Health)				
	ARDI (Access to Research in Development and Innovation)				
2.	TEEAL (The Essential Electronic Agricultural Library	No username required.	No password required.	teeal.mak.ac.ug	
3.	PROTAbase (Plant Resources Of Tropical Africa database)	No username required.	No password required.	www.prota.org (This is a free source database accessed through the internet)	
4.	AgriKnowledge	No username required.	No password required.	www.agriknowl- edge.org	
5.	Makerere Institutional Repository			http://makir. mak.ac.ug	
6.	OECD Online Library	makerere-us- er	makerere user	www.oecd-ili- brary.org	

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7.	Forestry compendium	No username required.	No password required.	www.cabi.org/ fc/
8.	Crop Protection Compendium	No username required.	No password required.	http://www. cabi.org/cpc/
9.	Animal Health and Production Compendium	No username required.	No password required.	http://www. cabi.org/ahpc/
10.	CAB Abstracts	No username required.	No password required.	https://www. cabdirect.org/
11.	Free Articles	No username required.	No password required.	http://booksc. org
12.	Free E-books	No username required	No password required.	http://b-ok.org
13.	Other Free E-books	No username required	No password required.	pdfdrive. nethttp://b-ok. org/
14.	Others (On Maklib website)	-	-	http://mulib. mak.ac.ug/

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6.0: PHYSICAL INFRASTRUCTURE AND EQUIPMENT ACQUIRED

6.1: CAES acquires MASCOR John Deere agricultural tractor worth \$26,500 (approximately shs.98,050,000)



The college acquired another MASCOR John Deere agricultural tractor worth \$ 26,500 (approximately shs. 98,050,000). The tractor was purchased using college resources mainly from the project overheads. The four wheel drive John Deere Agricultural Machinery, model 5075E with 75HP can be attached on a variety of farm implements including a plough, harrow, planter, bailer and forage harvester among others.

The machinery was supplied by John Deere MAS CORPORATION Company Ltd (MASCOR) and delivered at the Makerere University Agricultural Research Institute (MUARIK) on 2nd October, 2018. The suppliers were represented by Ms. Hellen Atuhaire and Mr. Lwanga Mande.

The handover ceremony was witnessed by University Bursar's representative Mr. Teefe Paul, the Principal CAES, Prof. Bernard Bashaasha, Ag .Director MUARIK Dr. Alice Turinawe, the Ag. Farm Manger Mr. Chrysestom Tweyambe, MUARIK security persons and other university staff. The Principal CAES Prof. Bernard Bashaasha received the equipment. The John Deere agricultural machinery is a brand new machine that can do work in all situations.

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The company provided the service kit for free, offered the first two tractor services and free training to the tractor operators before using the machine and a warranty of 2 years or 2000hours whichever comes first.

6.2:A \$ 3 million USD Modern Poultry Unit funded by KOICA IBS Program opened

The college opened a modern poultry unit at the Makerere University Agricultural Research Institute Kabanyolo worth \$3 million US Dollars.70% of this budget was funded by the Korean International Cooperation Agency(KOICA) and another 30% by Eagle Vet while Shinhan A-Tech is funded at 30% of the horticultural enterprise.

The opening day workshop was held on 30th August 2018 at MUARIK following 90% completion of the construction work. The construction commenced on May 30th 2018 and was expected to be complete by 30th September 2018.



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The function was attended by the Country Director KOICA, Professors of Chonbuk National University, the Chief Director, Eagle Vet Uganda, the Director KOPIA and the President, Korean Community in Uganda among others. Makerere University was represented by Deputy Vice Chancellor Finance and Administration (DVC F&A) Prof. William Bazeeyo, CAES Principal Prof. Bernard Bashaasha, his Deputy Dr. Gorettie Nabanoga, staff from Makerere and other universities as well as farmers

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This development comes after Makerere University and Chonbuk National University, International Agriculture Development and Cooperation Center (IADCC) signed an agreement in May 2016 to implement the KOICA (Inclusive Business Solutions) IBS Project.

Makerere University allocated part of the university farm land to the project totaling to 4.2 acres. The project embarked on the construction of different units. 90% of the construction work is complete expected to be finalised by 30th September 2018.

The project has constructed three (3) poultry houses with a capacity of five thousand (5000) birds (hence rearing a total of 15,000 birds). The focus is mainly on layers for egg production. Additionally, a brooder house was constructed to raise young chicks.

A drying shed was also constructed for drying chicken manure. A microbial facility that will be used to make micro organisms to be used in the fermentation of chicken manure has also been constructed. The project intends to have contract farmers that will supply raw materials like maize and soybean to process feeds for chicken that will be bought at higher prices to increase framers income.

The project will provide readily available organic chicken fertilizer to farmers hence showing a linkage between crop and livestock production. The project will also construct a six hundred square meters (600m²) greenhouse that will produce quality tomatoes.

Additionally, the project will train farmers on improved agricultural technologies at National Farmers Leadership Center and also share 30% percent of the profits to farmers.

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6.3: Makerere receives 10 hactares of land offered by Nyabyeya Forestry College to enhance Practical Forestry training.

Nyabyeya Forest College (NFC) in Masindi handed over ten (10) hectares of land to Makerere University to enhance practical forestry training at the University. The land provided will be used for establishment of a training plantation forest which will help in enhancing practical training and research. This followed a Memorandum of Understanding signed

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between Makerere University College of Agricultural and Environmental Sciences (CAES) and Nyabyeya Forestry College on 3rd July 2018.

The land was handed over by the Principal NFC Mr. Godfrey Akubonabona to Makerere University Vice Chancellor Prof. Barnabas Nawangwe on 15th August 2018 on his maiden visit to NFC and operationalisation of the implementation of the MoU between Mak-CAES and NFC.



Launching the implementation of the MoU, Prof. Nawangwe and the Late Godfrey Akubonabona exchange signed MoUs

The hand over was witnessed by NFC staff including the Deputy Principal, Mr. Kisakye Richard, the Academic Registrar Mr. Swaib Gwanyi, the Assistant Academic Registrar Mr. Ambrose Ahimbisibwe and the Plantation Manager, Mr. Geofrey Sebahutu among others.Makerere Vice Chancellor was accompanied by the University Legal Officer Mr. Henry Mwebe, the Principal College of Agricultural and Environmental Sciences (CAES) Prof. Bernard Bashaasha, his deputy Dr. Gorettie Nabanoga, the Dean School of Forestry, Environmental and Geographical Sciences Prof. Mnason Tweheyo, Deans and Heads of units from the CAES.

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Prof. Barnabas Nawangwe planting a tree at the site of the 10 hactares offered to Makerere

6.4: Makerere University Regional Centre for Crop Improvement (MaRCCI) Program acquires three brand new vehicles worth over shs. 1bn billion

Makerere University Regional Centre for Crop Improvement (MaRCCI) procured and delivered three vehicles worth over one billion shillings funded by the World Bank.

The vehicles, Model 2018, include a 29 seater minibus Registration No. UBD 487Q procured at a cost of \$106,000 USD and two double cabins Registration Nos. UBD 485Q & UBD 488Q procured at \$50,000 USD each.

The three vehicles were supplied by Toyota Uganda Ltd and received by Makerere University Vice Chancellor Prof. Barnabas Nawangwe at the University Freedom square in the afternoon of 1st August, 2018. MaRCCI centre Director who is also the Principal Investigator of the project Dr. Richard Edema said, as part of the centre, they have been trying to strengthen on the teaching and training infrastructure."We have a lot of research and scientists need vehicles for movement, field trails and monitoring. The minibus will help in transportation of our students and

staff during teaching and field trials," Dr. Edema said.

He said the center's efforts in improving the training and research infrastructures is in response to the university call to position itself as a research led university. "This is the second procurement. We are now left with equipping the laboratory, establishing an office and classroom block at MUARIK to help CAES in teaching her programmes", Dr. Edema said.



The three vehicles procured

6.5: MaRCCI procures first class agricultural tractor worth 1 billion

Makerere University's World Bank funded Regional Centre for Crop Improvement (MaRCCI) on June 29th 2018 procured the recent first class agricultural equipment to help students in the tilling of land for crop improvement. The equipment procured at a cost of about sh1bn was received by the Vice Chancellor Prof. Barnabas Nawangwe at the Makerere University Agricultural Research Institute Kabanyolo (MUARIK).

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The Centre Director Dr. Richard Edema said the equipment worth sh1b include a tractor, a plough, a hauler, a planter ,an automatic fertilizer and insect side application machine and will greatly make mechanization and planting easier for the students. With this first class equipment, students w will be able to open a lot of experimental land for cowpea, sorghum among other crops.



6.6: Construction of the Post Graduate Research Laboratories at MUARIK almost complete

The construction of the Post Graduate and Research Laboratories at Makerere University Agricultural Research Institute Kabanyolo (MUARIK) is almost complete. The ground breaking ceremony was done on 16th August 2018 following the site hand over to the Contractor Excel Construction Company Ltd on 10th August, 2017. The estimated cost for the new structure is \$ 1.2million US Dollars and is part of the USD 29.2 million from the 5 year period (2013-2018) AfDB - Higher Education, Science and Technology (HEST) project. The project took nine (09) months and was almost ready by August 2018.



6.7: An Environmental station (eSTATION) acquired

An Environmental station (eSTATION) - a computer system with a comprehensive remote sensing software developed by the Joint Research Centre of the European Commission was acquired and installed at the School of Forestry, Environmental and Geographical sciences. Its role is to automatically perform computation of environmental indicators from earth observations data routinely distributed by EUMETSAT through EUMET Cast system. It thus addresses issues of data reception in areas with poor internet connectivity. The data dates back to the 1990s till today.

6.8: Procurement for the equipment for the MUARIK Dairy Value Chain

Procurement for the equipment for the MUARIK Dairy Value Chain (capacity of 2000 litres of processed/pasteurized milk) being handle by the Ministry of Education and Sports is in its final stages. The equipment includes: Milk processor, filter, milk pumps, milk cooler, dump tank, De –Aerator,

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flow meter, milk cans, pastueriser, central panel, plate heater exchange, yoghurt transfer pump, cream separator, homogenizer, fermentisation tank, milk pipes and valves, butter churner, ice cream plan machine for polythene ponches, machine for plastic cups, chilling system, steam boiler, deep freezer, cold room, laboratory and milking machines.

6.9: A Video Conferencing facility worth \$ 9,148 acquired under the USAID Capacity Building project

A video conferencing facility worth \$ 9,148 was installed at the School of Agricultural Sciences in the College of Agricultural and Environmental Sciences under the USAID Capacity Building project titled, "Upgrading the institutional capacity of the Department of Agribusiness and Natural Resource Economics (DANRE). KSU is an abbreviation for Kansa State



The Head, DANRE Dr. Gabriel Elepu receiving keys to the facility from Prof. Allen Featherstone and Dr. Simon Byabagambi

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7.0: FINANCIAL RELEASES AND ALLOCATIONS (2017-2018)

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7.1: Funds received from the centre

The total budget for the college was UGX. 11,939, 265,026 including staff costs, salaries, allowances and social contributions. However, the ceiling for operations for the academic year 2017/2018 was UGX. 618,532,667 and UGX 1,451,730,208 for scholarships and related costs transferred from the centre and accessed in the IFMS.

Information on student numbers was received from heads of departments and based on the fees structure, the expected revenue under normal conditions was computed. The expected revenue was used to set proportions to arrive at funds received per program based on releases as they come in.

7.2: The agreed distribution rates

LEDGERS	% AGREED
Principals ledger	35
Deans ledgers	20
Heads of Departments	45
Total	100

7.3: Distribution of Transfers received from the centre for operational activities

Summary of the distribution of Transfers received from the centre for operational activities 2017/2018 (shs. 396,361,386)

UNIT	AMOUNT (UGX)
Principal's Office	138,708,987
Dean School of Food Technology, Nutrition and Bio engineering	11,360,862
Department of Food Technology and Human Nutrition	16,157,704
Deparment of Agricultural and Biosystems Engineering	9,404,231
Dean, School of Forestry, Environmental and Geographical Sciences	33,983,323

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Department of Forestry, Bio Diversity and Tourism	44,586,083
Department of Environmental Management	23,872,374
Department of Geography, Geo informatics and Climatic Sciences	8,004,020
Dean, School of Agricultural Sciences	33,918,093
Department of Agricultural Production	37,980,724
Department of Agribusiness and Natural Resource Economics	15,744,985
Department of Extension and Innovation Studies	22,640,001
TOTAL	396,361,386

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7.4: Other funds received from the centre (2017/2018) for Scholarship and related costs

Activity	Amount (UGX)
Examination funds for semester I and II	131,560,206
Teaching materials for semester I and II	332,504,906
Internship funds	145,285,000
Recess term	324,714,548
Academic practicals	102,000,000
Central marking	15,530,716
Part time teaching	300,000,000
TOTAL	1,351,595,376

7.5: Miscellaneous income generated by units

UNIT	AMOUNT (UGX)
School of Food Technology, Nutrition and Bio engineering	8,650,250
School of Forestry, Environmental and Geographical Sciences	1,200,000
MUARIK	234,000
TOTAL	10,084,000

N.B: Miscellaneous income is from the following sources:

- Study tours
- Hire of space
- Maintenance of pilot plant
- Vehicle hire

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8.0: PUBLICATIONS 2017-2018

On average, the CAES produces 100 publications annually. For the period 2017-2018, the college produced over 200 publications including:

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8.1: Publications for 2018

- Agaba, R. F. Babweteera1, S. Balaba Tumwebaze, M. Tweheyo and N. Turyahabwe (2018). Trench layering using indole-3-butyric acid and local organic substrate mixtures to enhance rooting and survival of apple rootstocks. African Crop Science Journal, Vol. 26, No. 1, pp. 93 – 105.
- Agaba, R. F. Babweteera1, S. BalabaTumwebaze, M. Tweheyo and N. Turyahabwe (2018). Trench layering using indole-3-butyric acid and local organic substrate mixtures to enhance rooting and survival of apple rootstocks. African Crop Science Journal, Vol. 26, No. 1, pp. 93 – 105.2018. Colonization of woody seedlings in the understory of actively and passively restored tropical moist forests. Restoration Ecology. In press.
- Agbahoungba S. Karungi J., Badji A., Sadik K., Gibson P. 2018. Inheritance of cowpea resistance to flower thrips in Uganda germplasm, Journal of Plant Breeding and Crop Science, Vol. 10(1): 21-32.
- 4) Agbahoungba S., Karungi J., Sadik K., Gibson, P., Edema R., Assogbadjo A.E. and Rubaihayo P.R. 2018. Microsatellites markers associated with resistance to flower bud thrips in a cowpea F2 population derived from genotypes TVU-123 and WC36, African Journal of Biotechnology, Vol. 17(25): 767-778.
- Agbahoungba, S., Karungi, J. Odong, T.L., Badji, A., Kumi, F., Mwila, N. and Rubaihayo, P.R. 2018. Biochemical constituents influencing the resistance of flower bud thrips in cowpea (Vigna unguiculata (L.) Walp) germplasm, Journal of Animal and plant sciences, 28(1): 128-137

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 Arinaitwe, W., Ochwo-Ssemakula, M., Mbewe, W.K., Sseruwagi, P. Kyamanywa, S., Erbaugh, M. Miller, S. and Qu, F. 2018. Molecular Characteristics of Tomato Mosaic Virus Infecting Tomato in Uganda. *African Crop Science Journal* 445 - 433 ,(3)26

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- 7) Atukunda, R., Sseruwagi, P., Karungi, J., Kyamanywa, S., Erbaugh, M. and Ochwo-Ssemakula, M. 2018. Farmers' knowledge of passion fruit virus diseases and their management in central Uganda. *African Journal of Horticultural Sciences* 64-13:53
- Byakagaba, P., Egeru, A., Barasa, B., & Briske D. David. 2018. Uganda's rangeland policy: intentions, consequences and opportunities. Pastoralism: Research, Policy and Practice (2018) 8:7https://doi. org/10.1186/s13570-017-0111-3
- Byakagaba, P., Twesigye, B., & Ruyle, L. In the Space of the Rent Gap: Dialectics of Conservation, extractives, and Uganda's "Land Rush" (Accepted book chapter).

Cavanagh, C.J., and Tumusiime, D.M. Earthscan Publishers.

- 10) Cavanagh, C.J., Sandbrook, C. and Tumusiime, D.M. (In Press). Conservation, Development, and the Politics of Ecological Knowledge in Uganda. In C. Sandbrook, C.J. Cavanagh and D.M. Tumusiime (Eds). *Conservation and Development in Uganda,* First Edition, Routledge, London, UK.
- 11) Cavanagh, C.J., Sandbrook, C. and Tumusiime, D.M. (In Press). Dynamics of uneven conservation and development in Uganda. In C. Sandbrook, C.J. Cavanagh and D.M. Tumusiime (Eds). *Conservation and Development in Uganda*, First Edition, Routledge, London, UK.
- 12) Enock Ssekuubwa, Leif E. Loe, , Douglas Sheila., Mnason Tweheyo, and Stein. R. Moe, 2018. Colonization of woody seedlings in the understory of actively and passively restored tropical moist forests. Restoration Ecology. In press
- 13) Esther. Kemigisha¹. Edmund.O. Owusu². Christianah. A. Elusiyan³.
 Paul.P. Bosu⁴. Francis.Omujal⁵ Mnason. Tweheyo¹ (2018). Multiple Medicinal and Food Uses of Tetrapleuratetraptera by Households

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and Local Markets in Ghana, Nigeria and Uganda. Forests, Trees and Livelihoods. Taylor and Francis. (in press)

۲

- 14) Fredrick Ruguma Tumwine, Hosea Opedes, George Tunanukye and Jennifar Tumushabe (2018) "Improving livelihoods through bee farming in Kamwenge district" IJAH January 2018
- 15) Fredrick Ruguma Tumwine, Yazidhi Bamutaze, Hosea Opedes (2018) "Demographic shifts influencing the political landscape of the lake Victoria basin in Uganda" Sociology and Anthropology journal Vol.6(9), pp.709-716
- 16) Gabiri, G., B. Diekkrüger, C. Leemhuis, S. Burghof, K. Näschen, I. Asiimwe and Y. Bamutaze (2018). Determining hydrological regimes in an agriculturally used tropical inland valley wetland in Central Uganda using soil moisture, groundwater, and digital elevation data. Hydrological Processes, pp 349-362. Vol. 32, 3, DOI: 10.1002/ hyp.11417.
- 17) Gidudu, A., and Y. Bamutaze (2018). Introduction to the AARSE2016 Special Issue of the *South African Journal of Geomatics.* "South African Journal of Geomatics 7.1 (2018)
- 18) Gorla, E., Bertolini, F., Strillacci, M.G., Cozzi, M.C., Roman-Ponce, S.I., Ruiz, F.J., Vega, V.V., Dematawewa, C.M.B., Kugonza, D.R., Elbeltagy, A., Schmidt, C.J., Lamont, S.J., Bagnato, A., Rothschild, M.F. 2018. Genomic diversity using copy number variations in worldwide chicken populations. *International Journal of Animal Health & Animal Science Food Safety*, 5(1): 49–50.
- 19) I.K.Mayanja, J.Kigozi, J.B. Kawongolo and T.J.Brumm, 2018. Design, Fabrication and Testing of a Pedal Operated Maize Grain Cleaner. Journal of Advances in Food Science & Technology Vol 5(3),pp 105-111.
- J. Kigozi, A. Kanyesigye, A. Ahumuza and I. Mayanj, 2018. Design, Fabrication and Testing of Mulondo Crashing Machine. Journal of Basic and Applied Research International. Vol. 24(6), pp 216-224.
- 21) Karungi J., Cherukut S., Ijala AR., Tumuhairwe, JB., Bonabana-

College of Agricultural & Environmental Sciences (CAES)

()

()

Wabbi, J., Nuppenau, EA. Hoeher M., Domptail S., and Otte A. 2018. Elevation and cropping system as drivers of microclimate and abundance of soil, macrofauna in coffee farmlands in mountainous ecologies, Applied Soil Ecology, DOI: 10.1016/j.apsoil.2018.08.003.

()

- 22) Kemigisha, M. Tweheyo (2018). Multiple Medicinal and Food Uses of Tetrapleura tetraptera by Households and Local Markets in Ghana, Nigeria and Uganda. Forests, Trees and Livelihoods. Taylor and Francis. (in press)
- 23) Kiyimba, F.& Kugonza, D.R.Effect of dietary protein level on growth, survival andfeed utilization in Guinea fowl keets. *African Journal of Rural Development, (in press).*
- 24) Kugonza, D.R. 2018. Inyambo cattle and their critical roles: Royalty through inheritance but facing adversity. African Union–InterAfrican Bureau for Animal Resources, Nairobi, Kenya.
- 25) Kumi, F., Agbahoungba, S., Badji, A., Mwila, N., Ibanda, A., Anokye, M., Odong, T., Wasswa, P., Ochwo-Ssemakula, M., Tusiime, G., Biruma, M., Kassim, S. and Rubaihayo, P. 2018. Genetic diversity and population structure of Peronosclerospora sorghi isolates of Sorghum in Uganda. *International Journal of Environment, Agriculture and Biotechnology* 5)3), DOI: 10.22161/ijeab/3.5.11
- 26) Kumi, F., Agbahoungba, S., Badji, A., Odong, T., Edema, R., Ochwo-Ssemakula, M., Nakubulwa, D., Tusiime, G., Biruma, M. and Rubaihayo, P. 2018. Incidence and distribution of downy mildew disease (*Peronosclerospora sorghi*) of sorghum in Uganda. *International Journal* of Advanced Research 965-954, (5)6. DOI:10.21474/IJAR7117/01 DOI URL: http://dx.doi.org/10.21474/IJAR7117/01
- 27) Lubandi, C., Lwasa, S., Kugonza, D.R., Babigumira, B.M., Semahoro,
 F., Nadiope, G.& Okot, M.W. Analysis of the Indigenous Chicken Value
 Chain in Uganda. *African Journal of Rural Development (in press).*
- 28) Mackay, H., F. Mugagga., L. Kakooza., & Chiwona-Kaltun. L (2018).
 Doing Thing their Way? Food, Farming and Health in Two Ugandan *Cities. Cities and Health.* DOI: 10.1080/23748834.2017.1414425

()

29) Malinga GM, Valtonen A, Lehtovaara V.J, Rutaro K, Opoke R, Nyeko P and Roininen, H. (2018). Diet acceptance and preference of the edible grasshopper Ruspolia differens (Orthoptera: Tettigoniidae). Journal of Applied Entomology and Zoology, 53: 229-236.

۲

- 30) Mubangizi, N., Kyazze, F. B., and Mukwaya, P. I. 2018 (Accepted). Smallholder farmers' perception and adaptation to rainfall variability in Mt. Elgon region, Eastern Uganda. International Journal of Agricultural Extension.
- 31) Mubangizi, N., Kyazze, F. B., and Mukwaya, P. I. 2018. Smallholder farmers' access and use of scientific climate information in Mt. Elgon area, Eastern Uganda. International Journal of Agricultural Science, Research and Technology in Extension and Education Systems, 8(1)21-28.
- 32) Mugagga. F., Kakooza, L., Asiimwe, G. (2018). A review of Uganda's Agricultural Policy and how it addresses AgriFose2030's Target Groups. AgriFoSe2030 Reports 2017-4. ISBN: 978 -91-576-9552-9. https://www.slu.se/globalassets/ew/org/andraenh/uadm/global/agrifose/outputs/reports/agrifose-report-4-2018.pdf
- 33) Mugagga. F., Kakooza, L., Asiimwe, G. (2018). A review of Uganda's Agricultural Policy and how it addresses AgriFose2030's Target Groups. AgriFoSe2030 Reports 2017-4. ISBN: 978 -91-576-9552- https://www.slu.se/globalassets/ew/org/andra-enh/uadm/ global/agrifose/outputs/reports/agrifose-report-4-2018.pdf
- 34) Mugizi, F., Ayorekire, J. and Obua, J. 2018. Contribution of Tourism to Rural Community Livelihoods in the Murchison Falls Conservation Area, Uganda. *African Journal of Hospitality, Tourism and Leisure* 7(1): 17 pages. Open Access Online @ http://:www.ajhtl.com ISSN: 2223-814X.
- 35) Mugume, I., Mesquita, M. D. S., Bamutaze, Y., Ntwali, D., Basalirwa, C., Waiswa, D., &Ogwang, B. A. (2018). Improving Quantitative Rainfall Prediction Using Ensemble Analogues in the Tropics: Case study of Uganda. Atmosphere, doi: 10.3390/atmos9040000

College of Agricultural & Environmental Sciences (CAES)

۲

92

()

36) Muhoozi Grace K. M., Prudence Atukunda, Lien M. Diep, Robert Mwadime, Archileo N. Kaaya, Anne B. Skaare, Tiril Willumsen, Ane C. Westerberg and Per O. Iversen. 2018. Nutrition, hygiene, and stimulation education to improve growth, cognitive, language, and motor development among infants in Uganda: A cluster-randomized trial. Maternal & Child Nutrition DOI: 10.1111/mcn.12527

()

- 37) Nahaloma A, P.O. Iversen, P.M. Rukundo, A. Kaaya, J. Kikafunda, W. B. Eide, M. Marais, E. Wamala and M. Kabahenda. 2018. Realization of the right to adequate food and the nutritional status of land evictees: a case for mothers/caregivers and their children in rural Central Uganda. BMC International Health and Human Rights. doi. org/10.1186/s12914-018-0162-6
- 38) Nahalomo A, Per Ole Iversen PO, Rukundo P, Kaaya P, Kikafunda J, Eide W, Marais M, Wamala E, and Kabahenda M(2018) Realization of the right to adequate food and the nutritional status of land evictees: A case for mothers/caregivers and their children in rural Central Uganda. *BMC International Health and Human Rights* (Accepted May 15 2018).
- 39) Niyiragira, V., Kugonza, D.R.& Hirwa, C.D. 2018. Success Drivers of Pig Artificial Insemination Based on Imported Fresh Semen. *International Journal of Livestock Production*, 9(6): 102–107.
- 40) Ojango, J.M.K., Mrode, R., Okeyo, A.M., Rege, J.E.O., Chagunda, M.G.G. & Kugonza, D.R.. Improving Smallholder Dairy Farming in Africa. In: Belzen, N. Van. Achieving Sustainable Production of Milk Vol. 2: Safety, quality & sustainability. Cambridge, UK: Burleigh Dodds Science Publishing Limited, 1–26, http://dx.doi.org/10.19103/ AS.2016.0005.38. (Book Chapter 38).
- 41) Okul, V., Ochwo-Ssemakula, M., Kaweesi, T., Ozimati, A., Mrema, E., Mwale, E.S., Gibson, P., Achola, E., Edema, R., Baguma, Y. and Kawuki, R. 2018. Plot Based Heritability Estimates and Categorization of Cassava Genotype Response to Cassava Brown Streak Disease. *Crop Protection* 46-39 :108

۲

()
42) Onzima, R.B., Gizaw, S., Kugonza, D.R., van Arendonk, J.A.M.& Kanis, E. 2018. Production Systems, Breeding Objectives and Farmer Preferences for Indigenous Goat Breeds in Uganda. *Small Ruminant Research*, 163: 51-59. Robinson, S. (In Press): Budongo Forest: Paradigm shift in conservation. In

۲

- 43) P. Ainebyona, J. Kigozi, A. Ahumuza and H. K. Balimunsi, 2018. Construction and Evaluation of a low cost Fruit Pulper. Journal of Basic and Applied Research International. Vol. 24(5), pp 208-215.
- 44) Sandbrook, C., Cavanagh, C.J. and D.M. Tumusiime (Eds). (In Press). Conservation and Development in Uganda, First Edition, Routledge, London, UK.
- 45) Semiyaga, S., Okure, M. A. E., Niwagaba, C.B., Nyenje, P. M. and Kansiime, F. (2018). Enhancing faecal sludge dewaterability and enduse by conditioning with sawdust and charcoal dust. *Environmental Technology.* 39(3), 327-335
- 46) Simon Kizito, Lv, Shubiao Wu, Hongzhen Luo, ZeeshanAjmal, Renjie Dong (2018). Recovery of nutrients from anaerobic digestate slurry onto biochar a s a slow release fertiliserin maize cropping systems. Plant and Soil (accepted Manuscript).
- 47) Siya, A., Kugonza, D.R.& Muwanika, V. 2018. Commercialisation of Alternative Livestock Feeds Could Save Fish Stocks in Lake Victoria. *African Journal of Tropical Hydrobiology & Fisheries*, 16: 48–50.
- 48) Ssepuuya G., Katongole J and Tumuhimbise G.A (2018). Contribution of instant Amaranth (Amaranthus hypochondriacus L) based vegetable soup to nourishment of boarding school adolescents Journal of Food Science and Nutrition https;doi.org/10.1002/fsn3.664
- Ssepuuya G., Namulawa V., Mbabazi, D, Mugerwa S., Fuuna P., Nampiijja, Z, Fiaboe.K.K.M (2017) Use of insects for fish and poultry compound feed in subsaharan Africa. Asystematic review abstract 1 (1) 1-14

College of Agricultural & Environmental Sciences (CAES)

94

()

()

50) Ssepuuya G., Tanga C.M Yekko., I Sengendo, Fiaboe.K.K.M. Nakimbugwe D (2018). Sustainability of egg hatching conditions and commonly available food plants for rearing the long- horned grasshopper Ruspolia diffens Serville (Orthoptera Tettiginiidae). Journal of Insects as Food and Feed 1-10.

()

- 51) Ssepuuya G., Van Pouche, C., Ediage, E, N, Mulholland C., Tritscher, A Veger P., De Saeger, S, (2018). Mycotoxin contamination of sorghum and its contribution to human dietary exposure in four subsharan countries. Food Additives and Contaminats: Part A 1-10
- 52) Tumusiime, D.M., Byakagaba, P. and Tweheyo, M. (2018). (In Press). Policy and institutional Drivers of deforestation in Uganda. Environmental Policy and Law
- 53) Tumusiime, D.M., Bitariho, R. and Sandbrook, C. (In Press). Bwindi Impenetrable National Park: a celebrity site for integrated conservation and development in Uganda. In C. Sandbrook, C.J. Cavanagh and D.M. Tumusiime (Eds). *Conservation and Development in Uganda*, First Edition, Routledge, London, UK.
- 54) Valtonen A, MalingaGM, Junes P, Opoke R, LehtovaaraVJ, Nyeko P and Roininen H. (2018) The edible Ruspolia differens (Orthoptera: Tettigoniidae: Conocephalinae) is a selective feeder on the inflorescences and leaves of grass species (2018). *Entomologia Experimentalis et Applicata* (In press).
- 55) Wasswa. H., V. Kakembo., F. Mugagga (2018). A Spatial and Temporal Assessment of Wetland Loss to Development Proejcts: The Case of the Kampala - Mukono Corridor Wetlands in Uganda. *International Journal* of Environmental Studies. DOI: 10.1080/00207233.2018.1494931.
- 56) Whitney, Cory W., Denis Lanzanova, Caroline Muchiri, Keith Shepherd, Todd S. Rosenstock, Michael Krawinkel, John R. S. Tabuti, Eike Luedeling. (in press) Probabilistic decision tools for determining impacts of agricultural development policy on household nutrition. Earth's Future.

()

()

8.2: 2017 publications

 Aben C., Esbern Friis-Hansen, B. Bashaasha and J.J. Okiror. (2017). Competing Interests over Natural Resources and Adaptation to Climate Change: The case of Rice Cultivation in the Gweri Wetland, Uganda. Chapter 10. In EsbernFriis-Hansen Editor. Decentralized Governance of Adaptation to Climate Change in Africa. CAB International 2017.

(�)

- Aboagye D., Noble Banadda, R. Kambugu, J. Seay, N. Kiggundu, A. Zziwa and I. Kabenge. Glucose recovery from different corn stover fractions using dilute acid and alkaline pretreatment techniques. Journal of Ecology and Environment, 41: 26-37, 2017. DOI: 10.1186\$/\$s41610-017-0044-1
- Aboagye, D., N. Banadda and N. Kiggundu. A review on the potential of Ghana to convert orange peel fibres into bio-oil using fast pyrolysis. Renewable and sustainability review journal, Vol. 70: 814-821, 2017
- Ajambo R., G. Elepu, B. Bashaasha and P. Okori. 2017. "Farmers' Preferences for Maize Attributes in Eastern and Western Uganda." *African Crop Science Journal*, Vol. 25, No.2, pp177-187.
- Akande, O.A., Nakimbugwe, D., Mukisa, I.M. 2017. Optimization of extrusion conditions for the production of instant grain amaranth-based porridge flour. Food Sci Nutr. 00: 1–10. https: // doi. org/10.1002/fsn3.513
- Akullo, J., Agea, J. G., Obaa, B. B., Acai, J. O., & Nakimbugwe, D. 2017. Process development, sensory and nutritional evaluation of honey spread enriched with edible insects' flour. African Journal of Food Science, 11(2), 30-39.
- Akullo, J., Obaa, B.B., Okwee, A. J., Nakimbugwe, D., Agea, J.G. 2017. Knowledge, attitudes and practices on edible insects in Lango sub-region, northern Uganda. Journal of Insects as Food and Feed 2017 3: 2, 73-81.

()

 Akwango, D., Obaa, B. B., Turyahabwe, N., Baguma, Y., &Egeru, A. (2017). Effect of drought early warning system on household food security in Karamoja subregion, Uganda. Agriculture & Food Security 6: 43.

۲

- Akwango, D., Obaa, B. B., Turyahabwe, N., Baguma, Y., &Egeru, A. (2017). Quality and dissemination information from a drought early warning system in Karamoja sub-region, Uganda. Journal of Arid Environments, 145, 69-80.
- Anaba Listowel Abugri, N. Banadda, N. Kiggundu, J. Wanyama, B. Engel and D. Moriasi. Application of SWAT to assess the effects of land use change in the Murchison Bay catchment in Uganda. Computational Water, Energy and Environmental Engineering, Vol. 6: 24-40, 2017.
- 11. Arthur Wasukira, Geoffrey Tusiime and Jerome Kubiriba. 2017. PCR validation of predicted virulence factors in a collection of Xanthomonas campestris (pv.musacearum and vascolurum) strains. African Journal of Biotechnology 16(12): 558-572.
- 12. Babweteera, F. and Ssekuubwa, E. (2017): Predicting which tropical tree species are vulnerable to forest disturbances. African Journal of Ecology (In Press)
- Bukenya, R., Abhiya, A., Andrade, J.M., Grigsby-Toussaint, D.S., Muyonga, J.& Andrade, J.E. 2017. Validity and Reliability of General Nutrition Knowledge Questionnaire for Adults in Uganda. *Nutrients*, 9(2), 172; doi: 10.3390/nu9020172
- 14. Bukusuba, John, Archileo N. Kaaya and Abel Atukwase. 2017. Predictors of Stunting in Children Aged 6to 59 Months: A Case-Control Study in Southwest Uganda. Food and Nutrition Bulletin, doi.org/10.1177/0379572117731666
- 15. Bukusuba, John, Archileo N. Kaaya and Abel Atukwase. 2017. Predictors of Stunting in ChildrenAged 6 to 59 Months: A Case-Control Study in Southwest Uganda. Food and Nutrition Bulletin, doi.org/10.1177/0379572117731666

()

()

 Bukusuba, John, Archileo N. Kaaya and Abel Atukwase. 2017. Risk factors for stunted growth among children aged 6–59 months in rural Uganda, International Journal of Nutrition, 3: 1-13 17.

۲

- Bunalema, L., Fotso, G.W., Waako, P., Tabuti, J., Yeboah, S.O., 2017. Potential of *Zanthoxylum leprieurii* as a source of active compounds against drug resistant Mycobacterium tuberculosis. BMCComplementary and Alternative Medicine 17: 89
- 18. Buyinza Mukadasi1*, Nabalegwa Wambedde Muhamood (2017). Economic Efficiency Of Mangoes- Based Agroforestry Systems In Buzaya County, Kamuli District Uganda International Journal of Agriculture and Environmental Research ISSN: 2455-6939 Volume: 03, Issue: 03 "May-June 2017"
- Buzo, H., Mukisa, I.M., & Mongi, R.J. 2017. Proximate composition, Pro-vitamin A retention and shelf life of extruded Orange Fleshed Sweet Potato and Bambara groundnut-based snacks. Accepted for publication in the *Journal of Food Processing and Preservation*. DOI: 10.1111/jfpp.13415
- Byakagaba, P., & Muhiirwe, R. (2017). Industrial forest plantations in Uganda: Local adjacent community perspectives. Journal of Sustainable Forestry, 36(4), 375-387.
- 21. Catherine P. Msuya, Festus K. Annor-Frempong, Margaret N. Mangheni, Robert Agunga, Chris O. Igodan, Ademola A. Ladele, Keba Huhela, Nelson M. Tselaesele, Henry Msatilomo, Clodina Chowa, Elliot Zwane, Richard Miiro, Christopher Bukenya, Laetitia A. Kima, Majory Meliko, Amadou Ndiaye (2017). The role of agricultural extension in Africa's development, the importance of extension workers and the need for change. International Journal of Agricultural Extension. Vol 05 (01). 59-70.
- 22. Chindime, S., Kibwika, P., Chagunda, M. (2017) Determinants of sustainable innovation performance by smallholder dairy farmers in Malawi, *Cogent Food & Agriculture* 3: 1379292, https: // doi.org/10.10 80/23311932.2017.1379292, Online,http: //www. tandfonline.com/doi/pdf/10.1080/23311932.2017.1 379292? Need Accesstrue

College of Agricultural & Environmental Sciences (CAES)

۲

()

23. D. Aboagye, Joseph Ofei Darko and Noble Banadda. Comparative study of Hermetic and Non-Hermetic Storage On Quality Of Cowpea in Ghana. Chemical and Biological Technologies in Agriculture, Vol.4: 10-16, 2017. DOI: 10.1186/s40538-017-0091-y

 (\bullet)

- 24. D. Aboagye, N. Banadda and N. Kiggundu. A review on the potential of Ghana to convert orange peel fibres into bio-oil using fast pyrolysis. Renewable and sustainability review journal, Vol. 70: 814-821, 2017
- D. Aboagye, Noble Banadda, R. Kambugu, J. Seay, N. Kiggundu, A. Zziwa and I. Kabenge. Glucose recovery from different corn stover fractions using dilute acid and alkaline pretreatment techniques. Journal of Ecology and Environment, 41: 26-37, 2017. DOI: 10.1186\$/\$s41610-017-0044-1
- 26. Daniel Kimuli, Resty Nabaterega, Noble Banadda, Isa Kabenge, Adipala Ekwamu and Paul Nampala. Advanced education and training programs to support renewable energy investment in Africa. International Journal of Education and Practice, 5(1): 8-15, 2017.
- 27. Denis Asizua, Denis Mpairwe, Fred Kabi, David Mutetikka, TorbenHvelplund, Martin Riis Weisbjerg and Jørgen Madsen 2017. Effects of grazing and feedlot finishing duration on the performance of three beef cattle genotypes in Uganda .Livestock Science 199 (2017) 25–30. http: //dx.doi. org/10.1016/j.livsci.2017.03.006 journal homepage: www.elsevier.com/locate/livsci
- 28. Dennis Okii, Clare Mukankusi, Sulaiman Sebuliba, Phinehas Tukamuhabwa, Geoffrey Tusiime, Herbert Talwana, T. L. Odong, Annet Namayanja, Pamela Paparu, Stanley Nkalubo, Michael Hilary Otim, Michael Ugen, Stephen Buah, and Paul Gepts. 2017. Genetic variation, Heritability estimates and GXE effects on yield traits of Mesoamerican common bean (Phaseolus vulgaris L) germplasm in Uganda. Plant Genetic Resources. DOI: 10.1017/ S1479262117000259.

۲

()

29. Dittmer, L., Mugagga, F., Metternich, A., Schweizer-Ries, P., Asiimwe, G., & Riemer, M. Building young people's environmental action competence: Contrasting cases in Germany and Uganda. *Manuscript submitted for publication*

۲

- Dittmer, L., Mugagga, F., Metternich, A., Schweizer-Ries, P., Asiimwe, G., & Riemer, M. (2017). "We can Keep the fire burning". Building Action Competence through Environmental Education in Uganda and Germany. *Local Environment* (CLOE). DOI: 10.1080/13549839.2017.1391188
- 31. Drake Mboowa, Isa Kabenge, Noble Banadda and Nicholas Kiggundu. Energy potential of Municipal Solid Waste in Kampala, a Case Study of Kiteezi Landfill Site. African Journal of Environmental and Waste Management, 4 (1): 190 -194, 2017.
- 32. Ebifa-Othieno E, Mugisha A, Nyeko P, Kabasa JD (2017). Knowledge, attitudes and practices in tamarind (Tamarindus indica L.) use and conservation in Eastern Uganda. Journal of Ethnobiologyand Ethnomedicine, 13: 5.
- 33. Endris, S.G., Kibwika P., Obaa, B. (2017) Harnessing Social Capital for Resilience to Livelihood Shocks: Ethnographic Evidence of Indigenous Mutual Support Practices among Rural Households in Eastern Ethiopia, *International Journal of population Research*, https: //doi. org/10.1155/2017/4513607, Online, https: //www.hindawi.com/ journals/ijpr/2017/4513607/
- 34. Enrique Ritter, Leire Barrandalla, Zacharia Malley, Martin Patrick Ongol, Archileo Kaaya, George Ooko, María del Rosario Mínguez, Jose Ignacio Ruiz de Galarreta. 2017. The Spirit Project: Strengthening the Capacities for Fostering Innovation Along Potato Value Chains in East Africa. 2017. Open Agriculture. 2017; 2: 425–430.
- 35. Francis Onyilo, Geoffrey Tusiime, Li-Hung Chen, Bryce Falk, Ioannis Stergiopoulos, Jaindra N. Tripathi, Wilberforce Tushemereirwe, Jerome Kubiriba, Charles Changa and Leena Tripathi. 2017. Agro bacterium tume faciens-Mediated Transformation of

۲

()

Pseudocercospora fijiensis to Determine the Role of PfHog1 in osmotic Stress Regulation and Virulence Modulation. Front. Microbiol. https://doi.org/10.3389/fmicb.2017.00830

()

- 36. Frank Mugagga (2017). Perceptions and Response Actions of Small Holder Coffee Farmers to Climate Variability in Montane Ecosystems. *Environment and Ecology Research.* 5 (5): 357 – 366, 2017. DOI: 10.13189/eer.2017.050505
- 37. Fredrick Ruguma Tumwine, James Ntozi (2017) Urbanization fueling marriage dynamics among the Baganda of central Uganda. UAPS African Pouplation Studies Vol 3(2017)1, No 1
- 38. Fungo R, Ngondi JL, Muyonga JH, Tchatat M, Odjo S and JC Tieguhong. 2017. Physico-chemical characteristics of *Baillonella toxisperma* Pierre traditionally extracted edible oil from Cameroon forests. African Journal of Agriculture, Food, Nutrition and Development, 17(4): 12758-12774.
- 39.G. Karubanga, P. Kibwika, F. Okry and H. Sseguya (2017). How farmer videos trigger social learning to enhance innovation among smallholder rice farmers in Uganda. Cogent Food & Agriculture (2017), 3: 1368105
- 40. Gabriel Karubanga, Frank B. Matsiko & Solveig Danielsen (2017) Access and coverage: which farmers do plant clinics reach in Uganda?, Development in Practice, 27: 8, 1091-1102 To link to this article: http: //dx.doi.org/10.1080/09614524.2017.1359236
 © 2017 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
- 41. Gilbert John Miito and Noble Banadda. A short review on the potential for coffee husk gasification for sustainable energy in Uganda. F1000Research, 6: 1809-1817, 2017.
- 42. Godfrey Omulo, Sarah Willett, Jeffrey Seay, Noble Banadda, Isa Kabenge, Ahamada Zziwa, Nicholas Kiggundu. Characterization of Slow Pyrolysis Wood Vinegar and Tar from Banana Wastes Biomass as potential organic pesticides. Journal of Sustainable Development, 10(3): 81-92, 2017.

()

 \bigcirc

 Hirwa, C.D., Kugonza, D.R., Amahoro, E., Ingabire, C., Niyiragira, V., Myambi, C., Manzi, M., Murekezi, T., Nyabinwa, P., Nshimiyimana, A.M., Kanyandekwe, C. & Gahakwa, D. 2017. Influence of Breed, Season and Age on Bovine Semen Used for Artificial Insemination. International Journal of Livestock Production, 8(6): 72–78. doi: 10.5897/IJLP2017.0368.

۲

- 44. Hirwa, C.D., Kugonza, D.R., Murekezi, T., Rwemarika, J.D., Kayitesi, A., Musemakweri, A., Shabayiro, J.P., Shumbusho, F., Manzi, M. & Safari, T. 2017. Management and Phenotypic Features of Indigenous Cattle in Rwanda. International Journal of Livestock Production, 8(7): 95–112. doi: 10.5897/IJLP2017.0362.
- 45. Hyuha T.S., Ekere William and Bantebya Kyomuhendo Grace. (2017). Determinants of Import Demand of Rice in Uganda International Journal of Applied and Pure Science and Agriculture vol 03 Issue 3 pp 75-81.
- 46. Isa Kabenge, Abia Katimbo, Nicholas Kiggundu and Noble Banadda. Bioremediation as a mitigation tool to environmental pollution from anticipated rapid industrialization and planned oil and gas sector in Uganda: A Review. Journal of Environmental Protection, 8: 1393-1423 2017.
- 47. Isolation of luteal endothelial cells and functional interactions with T lymphocytes.Reproduction. 2017 May; 153(5): 519-533. doi: 10.1530/REP-16-0578. Epub 2017 Feb 7. PMID:28174320
- 48.J. Ilukor (2017) Improving the delivery of veterinary services in Africa: insights from the empirical application of transaction costs theory in Uganda and Kenya. Rev. Sci. Tech. Off. Int. Epiz., 2017, 36 (1) 279-289
- 49. Jiru, T.M, M. Groenewald, C.Pohl, L Steyn, N. Kiggundu, D Abate. Optimization of cultivation conditions for biotechnological production of lipid by Rhodotorula (syn, Rhodosporidium kratochvilovae) SY89 for biodiesel preparation.3 Biotech 7 (2), 145, 2017. DOI10.1007/s13205-017-0769-7.

College of Agricultural & Environmental Sciences (CAES)

۲

()

50. John Stephen Tenywa, Margaret Nabasirye, Revocatus Twinomuhangi and David. Mfitumukiza. (2017). Uptake of Knowledge and Technologies for Adaptation to Climate Change in Crop Production Systems in Uganda: A Review. Advances in Research. 11(2): 1-14.

(�)

- 51. Joshi Chandni, Jeffrey Seay and Noble Banadda. A Novel Metric for Targeting Regions for Sustainable Waste Plastic Abatement Strategies. Nature, 2017. Accepted.
- 52. Joshua Wanyama, Herbert Ssegane, Isaya Kisekka, Allan John Komakech, Noble Banadda, Ahamada Zziwa, Tobias Oker Ebongo, Charles Mutumba, Nicholas Kiggundu, Ronald Kato Kayizi, Dominic Banaga Mucunguzi, and Florence Lubwama Kiyimba. Irrigation development in Uganda: Constraints, lessons learned and future directions perspectives. Journal of Irrigation and Drainage Engineering, 1(1): 1-10, 2017.
- 53. Kabenge Isa, Abia Katimbo, Nicholas Kiggundu and Noble Banadda2017. Bioremediation as a mitigation tool to environmental pollution from anticipated rapid industrialization and planned oil andgas sector in Uganda: A Review. Journal of Environmental Protection, 8: 1393-1423
- 54. Kabi F, Muwanika V and Masembe C 2017. Indigenous cattle breeds and factors enhancing their variation, potential challenges of intensification and threats to genetic diversity in Uganda. *Animal Genetic Resources.* 58: 1-12
- 55. Karubanga, G., Kibwika, P., Okry, F., Sseguya, H. (2017) How farmer videos trigger social learning to enhance innovation among smallholder rice farmers in Uganda, *Cogent Food & Agriculture* 3: 1368105, https: //doi.org/10.1080/23311932 .2017.1368105, Online, http: //www.tandfonline com/doi/ pdf/10.1080/23311932.2017.1368105?needAccess=true
- 56. Karubanga, G., Kibwika, P., Sseguya, H., Okry, F. (2017) Access to and use of video-mediated agricultural information: lessons from the case of Sasakawa global 2000 rice videos in Uganda.

()

 \bigcirc

African Journal of Rural Development, Vol. 2, n. 2, pp. 183-197, Online, http://www.afjrd.org/jos/index.php/afjrd/article/view/119

۲

- 57. Katuromunda, S., Mpairwe, D., Sabiiti, E.N. and Wredle, E. 2017. Effect of Supplementary Feeding on the Performance of Ankole x Friesian Crossbred Calves Grazed on Natural Pastures. *Journal of Agriculture and Ecology Research International*, 10(4): 1-12. DOI: 10.9734/ JAERI/2017/30366
- 58. Kayaga, H.N., Ochwo-Ssemakula, M., Kagoda, F., Alladassi, B.M.E., Asea, G., Gibson, P. and Edema, R. 2017. Genotype by environment interaction effects on grain yield of highland maize (*Zeamays* L) hybrids. *Maydica* 62 (2). 5pgs
- 59. Kiggundu N., S. Gyebi Arhin, Banadda N and Isa Kabenge. Impacts of biofuel policies on welfare and food security: assessing the socioeconomic and environmental tradeoffs in sub-Saharan Africa. International Journal of Renewable Energy Research, 2017. Accepted for publication.
- 60. Kiggundu Nicholas, Listowel Abugri Anaba, Noble Banadda, Joshua Wanyama and Isa Kabenge. Assessing land use and land cover changes in the Murchison Bay Catchment of Lake Victoria Basin in Uganda. Journal of sustainable Development. Accepted for publication.
- Kyallo M, Ateka, E.M., Sseruwagi, P., Ascencio-Ibanez, J.T., Ochwo Ssemakula, M., Skilton, R. and Ndunguru, J. 2017. Infectivity of Deinbollia mosaic virus, a novel weed-infecting begomovirus in East Africa. *Archives of Virology* 162(11): 3439-3445. doi: 10.1007/ s00705-017-3495-x
- 62. Kyallo, M., Sseruwagi, P., Skilton, R., Ochwo Ssemakula, M., Wasswa, P. and Ndunguru, J. 2017. Deinbollia mosaic virus: a novel begomovirus infecting the Sapindaceous weed *Deinbollia borbonicain* Kenya and Tanzania. *Archives of Virology* 162: 1393-1396. DOI: 10.1007/s00705-016-3217-9
- 63. Kyarikunda, M., A. Nyamukuru, D. Mulindwa, and J. R. S. Tabuti. 2017. Agroforestry and Management of Trees in Bunya County,

104

College of Agricultural & Environmental Sciences (CAES)

()

()

Mayuge District, Uganda. International Journal of Forestry Research 2017: 9.

۲

- 64. Kyomugisha H., Mugisha J. and Sebatta C. (2017). Potential determinants of profits and market efficiency of potato market chains in Uganda. *Journal of Agribusiness in Developing and Emerging Economies,* 7(1): 52-68. http://dx.doi.org/10.1108/JADEE-06-2015-0031
- 65. Listowel Abugri Anaba, N. Banadda, N. Kiggundu, J. Wanyama,
 B. Engel and D. Moriasi. Application of SWAT to assess the effects of land use change in the Murchison Bay catchment in Uganda. Computational Water, Energy and Environmental Engineering, Vol. 6: 24-40, 2017.
- 66. Losso, J.N., Karki, N., Muyonga, J., Wu, Y., Fusilier, K., Jacob, G., Yu, Y., J.C. Rood, J.C., Finley J.W., Greenway, F.L. 2017. Iron retention in iron-fortified rice and use of iron-fortified rice to treat women with iron deficiency: A pilot study. BBA Clinical 8 (2017) 78–83.
- 67. Lwiza F., Mugisha J., Walekhwa P.N., Smith J. and Balana B. (2017). Dis-adoption of Household Biogas technologies in Central Uganda. Energy for Sustainable Development, 37: 124–132.
- 68. M. Nateebwa, J.J Okiror and M. Mangheni Najjingo (2017). Effectiveness of community based seed multiplication in enhancing farmers' knowledge and access to improved bean seeds in western Uganda. African Crop Science Journal, Vol. 25, No. 3, pp. 321 - 332
- Makuma-Massa, H., Bemigisha, J., Kyasimire, B., Nyiramahoro, E., Begumana, J., Mugerwa, S.,Egeru, A. and Cho, M. (2017). Mapping the Potential for Hay Making in the Rangelands: A Methodological Proposition. Rangelands.39 (5): 152–162
- 70. Mambo Wilson, Kamugasha Dick, Adimo Ochieng, Nabasirye Margaret, and Namagembe Flavia. (2017). Effect of compaction pressure, particle size and binder ratio on thermo-physical properties of maize cob briquettes. International Journal of Scientific & Engineering Research (IJSER), 8 (2): 329-338.

()

()

 \bigcirc

71. Maria Bisamaza and N. Banadda. Solar drying and sun drying as processing techniques to enhance the availability of selected African indigenous vegetables, Solanum aethiopicum and Amaranthus lividus for nutrition and food security in Uganda. African Journal of Food Science and Technology, 8(1): 001-006, 2017.

۲

- Masauso Ndhlovu and N. Banadda. Determination of sufficiency of crop residue for Biochar Application. African Journal of Agriculture, 4(1): 254-262, 2017.
- Masauso Ndhlovu, Nicholas Kiggundu, Joshua Wanyama and N. Banadda 2017. Effects of incorporating biochar into the soil using Power Tiller and Ox-plough. Sustainable Agriculture Research, 6 (4): 93-103,
- 74. Masso, C., Baijukya, F., Ebanyat, P., Bouaziz, S., Wendt, J., Bekunda, M., Vanlauwe, B., 2017. Dilemma of nitrogen management for future food security in sub-Saharan Africa - a review. Soil Research 55: 425–434. Doi.org/10.1071/SR16332.
- 75. Mbewe, W., Tairo, F., Sseruwagi, P., Ndunguru, J., Duffy, S., Mukasa, S., Benesi, I., Sheat, S., Koerbler, M. and Winter, S. 2017. Variability in P1 gene redefines phylogenetic relationships among cassava brown streak viruses. Virology Journal, 14: 118 DOI 10.1186/s12985-017-0790-9.
- 76. Mbewe, W., Winter, S., Mukasa, S.B., Tairo, F., Sseruwagi, P., Ndunguru, J.,Duffy, S., (2017). Deep sequencing reveals a divergent strain of Ugandancassava brown streak virus isolated from Malawi. ASM Genome announcement. 5(33).
- 77. Mbolanyi, B., Egeru, A.,&Mfitumukiza, D. (2017). Choice Options to meet Household Food Security in the Cattle Corridor of Uganda. Environment and Natural Resources Journal, 15(1), 17-29.
- 78. Mboowa Drake, Isa Kabenge, Noble Banadda and Nicholas Kiggundu. Energy potential of Municipal Solid Waste in Kampala, a Case Study of Kiteezi Landfill Site. African Journal of Environmental and Waste Management, 4 (1): 190 -194, 2017.

()

79. Mfitumukiza, D., Barasa, B. & Aringaniza, I. (2017). Determinants of agroforestry adoption as anadaptation means to drought among *smallholder farmers in Nakasongola District, Central Uganda.* African Journal of Agricultural Research; 12(23): 2024-2035

۲

- 80. Mfitumukiza, D., Barasa, B. & Ntale, E. (2017). *Ecosystem- based Adaptation to Drought among Agro-pastoral Farmers: Opportunities and Constraints in Nakasongola District, Central Uganda.* EnvironmentalManagement and Sustainable Development; 6(2): 2164-7682.
- Momolu, E.P., Lamo, J. and Katuromunda, S. 2017. Soil moisture stress and nitrogen supply affect the growth characteristics and yield of upland rice cultivars. *International Journal of Plant & Soil Science*, Vol. 15(3): 1-10.
- Mugagga, F., B. Nabaasa (2016). The Centrality of Water Resources to the Realization of Sustainable Development Goals. A Review of Potentials and Constraints on the African Continent. *InternationalSoil and Water Conservation Research (ISWCR)*, 4(2016), 215 – 223. DOI: 10.1016/j. iswcr.2016.05.004
- 83. Muggaga C, Ongeng, D, Mugonola B, Okello-Uma I, Kaaya N.A and Taylor D. 2017. Influence of Sociocultural Practices on Food and Nutrition Security in Karamoja Sub region of Uganda. Ecology of Food and Nutrition, Vol. 56, No. 5., 424-447. Doi: 10.1080/03670244.2017.1366318.
- 84. Mugisha J., Mwadime R., Sebatta C., Gensi R. and Obaa B. (2017). Factors enhancing household nutrition outcomes in potato value chain in South-western Uganda. Journal of Sustainable Development, 10(3): 215-230. DOI: https://doi.org/10.5539/jsd. v10n3p215
- 85. Mugume I, D. Waiswa, MDS. Mesquita, J. Reuder, C. Basalirwa, Y. Bamutaze, R. Twinomuhangi, F. Tumwine, J. Sansa Otim, T.J. Ngailoand Ayesiga (2017). Assessing the Performance of WRF Model in Simulating Rainfall over Western Uganda. Journal of Climatology and Weather Forecasting

()

()

86. Mugume, I., Basalirwa, C., Waiswa, D., & Ngailo, T. (2017). Spatial Variation of WRF Model Rainfall Prediction over Uganda. World Academy of Science, Engineering and Technology, International Journalof Environmental, Chemical, Ecological, Geological and Geophysical Engineering, 11(7), 615-619.

۲

- 87. Mugume, I., Waiswa, D., Mesquita, M.D.S., Reuder, J., Basalirwa, C., Bamutaze, Y., Twinomuhangi, R., Tumwine, F., Sansa-Otim, J., Jacob Ngailo, T. & Ayesiga, G. (2017). Assessing the Performance of WRF Model in Simulating Rainfall over Western Uganda. Journal of Climatology and weather forecasting, 5(1), 1-9.
- 88. Muhoozi Grace K. M., Prudence Atukunda, Lien M. Diep, Robert Mwadime, Archileo N. Kaaya, Anne B. Skaare, Tiril Willumsen, Ane C. Westerberg and Per O. Iversen. 2017. Nutrition, hygiene, and stimulation education to improve growth, cognitive, language, and motor development among infants in Uganda: A clusterrandomized trial. Maternal & Child Nutrition DOI: 10.1111/ mcn.12527.
- 89. Mukamuhirwa F, Mukankusi MC, Tusiime G, Butare L, Musoni A, Ngaboyisonga C, Gahakwa D, Gibson P and Kelly K. 2017. Resistance Levels to Root Rot and Angular Leaf Spot Diseases in Selected High Iron Bean Genotypes. Adv Crop Sci Tech.DOI: 10.4172/2329-8863.1000274.
- 90. Mukhongo, R. W., Tumuhairwe, J. B., Ebanyat, P., Abdelgadir, A. H., Thuita, M., Masso, C.2017 Combined application of biofertilizers and inorganic nutrients improves sweet potato yields. Frontiers in Plant Science, volume 8 (219), doi: 10.3389/fpls.2017.00219
- Mukisa, I.M., & Kiwanuka, B. 2017. Traditional Processing, Composition, Microbial Quality and Sensory Characteristics ofEshabwe (Ghee sauce). *International Journal of Dairy Technology.* 70: 1 – 9. DOI: 10.1111/1471-0307.12407
- 92. Mukisa, I.M., & Warugaba, S. (In press). Proximate composition, acceptability and stability of proiotic dairy yoghurt containing cooking banana/matooke puree and Lactobacillus rhamnosus

۲

()

yoba journal of microbiology, biotechnology and food sciences. Journal of Microbiology, Biotechnologyand Food Sciences.

۲

- 93. Mutungi, C., Irungu, F.G., Nduko, J., Mutua, F., Affognon, H., Nakimbugwe, D, Ekesi, S., Fiaboe, K.K.M. 2017. Postharvest processes of edible insects in Africa: A review of processing methods, and the implications for nutrition, safety and new products development. Crit Rev Food Sci Nutr. 30: 1-23. doi: 10.1080/10408398.2017.1365330.
- 94. Muyonga, J.H., Nansereko, S., Steenkamo, I., Manley, M. & Okoth, J.K. 2017. Traditional African Foods and Their Potential to Contribute to Health and Nutrition. In Exploring the nutrition andhealth benefits of functional foods. Shekhar, H.U., Howlader, Z.H. & Kabir, Y (Editors). IGI Global. Doi. 10.4018/978-1-5225-0591-4.ch015.
- 95. Mwale, S.E., Ochwo Ssemakula, M., Sadik, K., Alladassi, B., Rubaihayo, P., Gibson, P., Singini, W. and Edema, R. 2017. Estimates of combining ability and heritability in cowpea genotypes under drought stress and non-stress conditions in Uganda. *Journal* of Plant Breeding and Crop Science 9(2): 10-18
- 96. Mwale, S.E., Ochwo-Ssemakula, M., Sadik, K., Achola, E., Okul, V., Gibson, P., Edema, R., Singini, W. and Rubaihayo, P. 2017. Response of Cowpea Genotypes to Drought Stress in Uganda. *American Journal of Plant Sciences* 8(4): 720-733. DOI: 10.4236/ajps.2017.84050
- 97. Mwendo, M.M., Ochwo-Ssemakula, M., Lamo, J., Gibson, P. and Edema, R. 2017. Reaction of upland rice genotypes to the brown spot disease pathogen *Bipolaris oryzae. African Journal of Rural Development* 2(1): 127-133
- 98. Mwendo, M.M., Ochwo-Ssemakula, M., Mwale, S.E., Lamo, J., Gibson, P. and Edema, R. 2017. Inheritance of resistance to brown spot disease in upland rice in Uganda. *Journal of Plant Breeding* and Crop Science 9(4): 37-44. DOI: 10.5897/JPBCS2016.0613

()

()

99. N. Kiggundu, S. Gyebi Arhin and Banadda N. Impacts of biofuel policies on welfare and food security: assessing the socioeconomic and environmental tradeoffs in sub-Saharan Africa. International Journal of Renewable Energy Research, 2017. Accepted.

۲

- N. Munu, P. A. Owusu, R. Kizza, N. Banadda and I. Kabenge. Towards accident-free construction sites: The role of human resource management A review. African Journal of Environmental Economics and Management, 5(5): 328-340, 2017.
- Nakabonge G., Samukoya C., Baguma Y. (2017) Local varieties of cassava: Conservation, cultivation and use in Uganda. *Environment Development and Sustainability.* (DOI: 10.1007/s10668-017-9997-6)
- 102. Namasaka Roy Wanjala, Geoffrey Tusiime, Orawu Martin, Paul Gibson, Symphorien Agbahoungba, Alladassi Mahulé Elysé Boris and Richard Edema. 2017. Genetic inheritance of resistance to Fusarium redolens in cowpea. Journal of Plant Breeding and Crop Science. 9(10): 165-174.
- 103. Nampanzira, D. K., J. D. Kabasa, C. B. Katongole, S. Okello, and J. R. S. Tabuti. 2017. Ameliorative effects of Ficus and Harrisonia diets on Small East African goat meat yield. Small Ruminant Research 153: 189-193.
- 104. Natabirwa, H., Muyonga, J. H., Nakimbugwe, D. and Lungaho, M. 2017. Physico-chemical properties and extrusion behaviour of selected common bean varieties. J. Sci. Food Agric. doi: 10.1002/jsfa.8618
- 105. Nelson Turyahabwe, D. M. Tumusiime, Fred Yikii, Willy Kakuru & Vincent Barugahare, 2017. Awareness, perceptions and implementation ofpolicy and legal provisions on wetlands in Uganda. African Journal of Rural Development, Vol. 2, Issue No 2, pp. 161-174, June 2017. ISSN2415-2838.
- 106. Nora J. Sadik, Sital R. Uprety, Amina Nalweysio, Noble Banadda, Joanna Shisler, Patrick Degnan and Thanh H. Nguyen. Quantification of multiple waterborne pathogens in drinking water,

College of Agricultural & Environmental Sciences (CAES)

()

()

drainage channels, and surface water in Kampala, Uganda during seasonal variation. Environmental Health Perspectives, 1(6): 258-269, 2017.

۲

- 107. Nyamukuru, A., J. R. S. Tabuti, M. Lamorde, B. Kato, Y. Sekagya, and P. R. Aduma. 2017. Medicinal plants and traditional treatment practices used in the management of HIV/AIDS clients in Mpigi District, Uganda. Journal of Herbal Medicine 7: 51-58.
- Ochago, R., Mangheni M.N, Miiro, R.F. (2017). Which socioeconomic factors matter in farmer group participation? Evidence from coffee pest management learning groups in Mt Elgon region, Uganda. International Journal of Agricultural Extension. Vol 05 (01). 23-38.
- Ochieng, A., Visseren-Hamakers, I. J. and Van der Duim, R. (2017). The battle over the benefits: Analysing the two sport hunting policy arrangements in Uganda. Oryx, pp.1-10. doi: 10.1017/S0030605316000909
- 110. Ojango, J.M.K., Mrode, R., Okeyo, A.M., Rege, J.E.O., Chagunda, M.G.G. and Kugonza, D.R. 2017. Improving Smallholder Dairy Farming in Africa. In: Belzen, N. Van. 2017. Achieving Sustainable Production of Milk Vol. 2: Safety, quality and sustainability. Cambridge, UK: Burleigh Dodds Science Publishing Limited, 1–26, http: //dx.doi.org/10.19103/AS.2016.0005.38.
- 111. Okello, D. K., Ugen, M. A., Tukamuhabwa, P., Ochwo-Ssemakula, M., Odong, T. L., Adriko, J., Kiconco, F., Male, A. and Deom, C. M. 2017. Molecular diagnostics of groundnut rosette disease agents in Uganda: Implications on epidemiology and management of groundnut rosette disease. *Journal of Plant Breeding and Crop Science* 9(5): 63-70. DOI: 10.5897/JPBCS2016.0630
- 112. Okia CA, Odongo W, Nzabamwita P, Ndimubandi J, Nalika N and Nyeko P (2017). Local knowledge and practices on use and management of edible insects in Lake Victoria basin, East Africa. *Journal of Insects as Food and Feed*, 3: 83-93.

۲

()

Okiror J.J., EsbernFriis-Hansen, B. Bashaasha and I. Nakendo (2017). A white Elephant in a Changing Climate: A territorial Approach to Climate Change Adaptation in Uganda. Chapter 5. InEsbern- Friis-Hansen Editor. Decentralized Governance of Adaptation to Climate Change in Africa. CAB International 2017.

()

- Olupot, G., Otukei, J. R., Muwanika, V. B., Esaete, J., Tabuti, J.R. S. 2017. Conversion of NativeVegetation in Protected Areas Fuels. CO2-equivalent Losses in Uganda. In Mukul, S. A., Manzoor, Rashid, A. Z. M. (eds). Protected Areas: Policies, Management and FutureDirections pp 179 – 202. Nova Publishers New York, U. S. A.
- 115. Omulo Godfrey, Sarah Willett, Jeffrey Seay, Noble Banadda, Isa Kabenge, Ahamada Zziwa, Nicholas Kiggundu. Characterization of Slow Pyrolysis Wood Vinegar and Tar from Banana Wastes Biomass as potential organic pesticides. Journal of Sustainable Development, 10(3): 81-92, 2017.
- 116. Onzima, R.B., Gizaw, S., Kugonza, D.R., van Arendonk, J.A.M. & Kanis, E. Production systems, breeding objectives and farmer preferences for indigenous goat breeds in Uganda. Small Ruminant Research, https: //doi.org/10.1016/j. smallrumres.2017.07.007.
- 117. Opolot, N.H., Isubikalu, P., Obaa, B.B., Ebanyat, P. and Okello, D.2017.Assessment of Experiential Learning and Teaching Approaches in Undergraduate Programmes at the School of Agricultural Sciences, Makerere University, Uganda. International Journal of Higher Education, 6(5): 155-167.
- 118. Owusu, Prosper Achaw, Noble Banadda and Nicholas Kiggundu. Mass Balance of Plastic Waste Conversion to Fuel Oil
 - A case in Uganda. Journal of Sustainable Development, 10(6): xx-xx, 2017.
- 119. Patience B.Rwamigisa, Paul Kibwika, Frank B. Matsiko, Margaret N.Mangheni and Regina Birner (2017). When the solution became a problem: strategies in the reform of agricultural

۲

extension in Uganda. In James Sumberg (Ed.) Agronomy for Development: The Politics of Knowledge in Agricultural Research. London and Newyork: Routledge. 91-103.

۲

- 120. Peter Tumutegyereize, Clever Ketlogetswe, Jerekias Gangure and Noble Banadda. Technical evaluation of uptake, Use, Management and future implications of household biogas digesters-ACase of Kampala City Peri-Urban areas. Computational Water, Energy, and Environmental Engineering, 6: 180-191, 2017.
- 121. Philipsson, J., Zonabend, E.K., Strandberg, E., Albihn, A., Atkisson, A., Chagunda, M., Frid, G.,Kugonza, D.R., Okeyo, M., Ojango, J. and Peters, K.J. 2017. Sustainable Agricultural Production & Food Security: Use of Livestock Resources for Food Security in the Light of Climate Change. Swedish International Agricultural Network Initiative (Siani) & SLU Global. Uppsala, Sweden. 4 pp.
- 122. Pius Lutakome, Fred Kabi, Francis Tibayungwa, Germana H. Laswai, AbilizaKimambo and Cyprian Ebong 2017. Rumen liquor from slaughtered cattle as inoculum for feed evaluation. Animal Nutrition: 3 (2017) 300-3008 http: //dx.doi.org/10.1016/j. aninu.2017.06.010. http: //www.keaipublishing. com/en/journals/ aninu/
- 123. Prosper A. Owusu and Noble Banadda. Livestock Wasteto-Bioenergy generation potential inUganda. Environmental Research, Engineering and Management, 2017. Accepted.
- Prosper Achaw Owusu, Noble Banadda and Nicholas Kiggundu. Mass Balance of Plastic Waste Conversion to Fuel Oil
 A case in Uganda. Journal of Sustainable Development, 10(6): xx-xx, 2017.
- 125. Riemer, M., Voorhees, C., Dittmer, D., Alisat. S., Alam, N., Sayal, R., Bidisha, S, H., De Souza, R.,Lynes, J., Metternich, M., Mugagga, F., and Schweizer-Ries, P (2016). The Youth Leading Environmental Change Project: A Mixed-Method Longitudinal Study across Six Countries. *Ecopsychology*,(8(3). DOI: 10.1089/ eco.2016.0025

College of Agricultural & Environmental Sciences (CAES)

۲

()

126. Robert Ayine, Fredrick R Tumwine, Robert Kabumbuli (2017) Socioeconomic status and livelihoods of refgees in selfreliance situation in Kyangwali refugee settlement. Ghana Journal of Geography- Vol 9, No.3 (2017)

۲

- 127. Rodenburg J, Cissoko M, Kayongo N, Dieng I, Bisikwa J, Irakiza R, Masoka I, Midega CAO and Scholes JD (2017). Genetic variation and host–parasite specificity of Striga resistance and tolerance in rice: the need for predictive breeding. New Phytologist 214 (3) 1267–1280.
- 128. Ronner, E., Descheemaeker, K., Almekinders, C. J., Ebanyat, P., Giller, K., 2017. Farmers' use and adaptation of improved climbing bean production practices in the highlands of Uganda. Agriculture, Ecosystems and Environment, In Press, DOI: 10.1016/j.agee.2017.09.004
- 129. Roy Wanjala Namasaka, Geoffrey Tusiime, Martin Orawu, Paul Gibson, Josiane Nyiramugisha, Richard Edema. 2017. Evaluation of Cowpea Genotypes for Resistance to Fusarium redolens in Uganda. American Journal of Plant Sciences, 8, 2296-2314.
- Rugema, S.H., Kibwika, P.,Sseguya, H. (2017) Partnership construction and value co-creation to addressvoids in rice production: The case of rice value chains in Uganda, Cogent Food & Agriculture(3), pp. 1-17, DOI: 10.1080/23311932.2017.1312087, Online, http://www.tandfonline.com/ doi/pdf/ 10.1080/23311932.2017. 1312087? needAccess=true
- 131. Rugema, S.H., Sseguya, H., & Kibwika, P. (2017). Information quality, sharing and usage in farmer organizations: The case of rice value chains in Bugiri and Luwero Districts, Uganda. *Cogent Food&Agriculture* https: //doi.org/10.1080/23311932.2017.1 350089
- S. Akello, N. Turyahabwe, H. Sseguya, P. Okullo, and J.G.Agea, 2017. "Local Community Participation in Restoration of Watersheds in Uganda." American Journal of Environmental

()

()

Protection, vol. 5, no. 2 (2017): 25-32. ©Science and Education Publishing. doi: 10.12691/env-5-2-1.

۲

- 133. S.G. Arhin, N. Banadda, A.J. Komakech and S.J. Marks. Pilot field-scale application of hybrid coagulation-ultrafiltration process for decentralized water treatment in low income settings: A case study in Kampala, Uganda. Water Science and Technology: Water Supply, 2017. Accepted.
- 134. S.G. Arhin, N. Banadda, A.J. Komakech, W. Pronk and S.J. Marks. Response surface optimization of hybrid coagulation – ultrafiltration process for potable water treatment. Water Science and Technology:Water Supply, 2017. In Press. DOI: 10.2166/ ws.2017.159
- 135. Sadik, Nora J., Sital R. Uprety, Amina Nalweysio, Nicholas Kiggundu, Noble Banadda, Joanna Shisler, Patrick Degnan and Thanh H. Nguyen. Quantification of multiple waterborne pathogens in drinking water, drainage channels, and surface water in Kampala, Uganda during seasonal variation. Environmental Health Perspectives, 1(6): 258-269, 2017.
- Salamula, J. B., Egeru, A., Aleper, D. K., & Namaalwa, J. J. (2017). Camel forage variety in the Karamoja sub-region, Uganda. Pastoralism, 7(1), 8.
- Salamula, J. B., Egeru, A., Aleper, D. K., Asiimwe, R. &Namaalwa, J. J. (2017). Socio-economic determinants of pastoralists' choice of camel production in Karamoja sub-region, Uganda. Pastoralism: Research, Policy and Practice (2017) 7: 26
- 138. Sally Chikuta, Thomas Odong, Fred Kabi& Patrick Rubaihayo 2017. Combining Ability and Heterosis of Selected Grain and Forage Dual Purpose Sorghum Genotypes. Journal of Agricultural Science; Vol. 9 (2017) 122-130. URL: http://dx.doi. org/10.5539/jas.v9n2p122
- Sanya, N.L., Sseguya, H., Kyazze, F.B., Baguma,
 Y., Kibwika, P. (2017). Actor diversity and interactions in the development of banana hybrid varieties in Uganda: implications

College of Agricultural & Environmental Sciences (CAES)

()

 \bigcirc

for technology uptake, *The Journal of Agricultural Education and Extension*, Taylor & Francis Online, http: // dx.doi.org/10.1080/13892 24X.2017.1401549, available at, http: //www.tandfonline. com/doi/full/10.1080/1389224X.2017.1401549?scroll =top&needAccess=true

۲

- 140. Ssebagala, L. G., Kibwika, P., Kyazze, F.B. (2017). Intra-household gender division of labour and decisionmaking on rice postharvest handling practices: A case of Eastern Uganda, *Cogent Social Sciences* (3), pp. 1-14, DOI: 10.1080/23311886.2017.1296323, Online, http: // www.tandfonline. com/doi/pdf/10.1080/23311886.2017. 1296323?needAccess=true
- 141. Ssebagala, L.G., Kibwika P., Kyazze F.B., Karubanga G. (2017). Contextual mismatch of interventions for reduction of postharvest losses in rice: Farmer perceptions, practices and innovations in Eastern Uganda, Agricultural Science Digest, 37(2), pp. 132-136; DOI: 10.18805/asd.v37i2.7988, Agricultural Research Communication Centre, Online, http: //arccjournals. com/journal/agricultural- science-digest/R-111
- 142. Ssebagala, L.G., Kibwika P., Kyazze, F.B. (2017). Farmers' perceptions of rice postharvest losses in Eastern Uganda, Journal of Agricultural Extension, 21(2), pp. 30-43; DOI: 10.4314/jae.v21i2.3, Online, http: //journal.aesonnigeria.org/index.php/jae/ article/view/1033
- 143. Sseguya, H., Mazur, E.R. & Flora B.C. (2017). Social capital dimensions in household food security interventions: Implications for rural Uganda. Agriculture and Human Values. doi: https://doi. org/10.1007/s10460-017-9805-9
- Ssekuubwa E, Sheila, D., Leif, E. Tweheyo, M. and Stein. M, 2017: Comparing seed removal rates in actively and passively restored tropical moist forests. Restoration Ecology. doi: 10.1111/ rec.12629.
- 145. Tumwesigye, T., Olupot, G., Musinguzi, P., Leip, A., Bekunda, M.,Sutton, M.A. 2017 (In Press). Pre-informed

College of Agricultural & Environmental Sciences (CAES)

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consumers on a pre- adjusted menu had smaller nitrogen footprints during theN2013conference, Kampala, than those on a conventional menu. In: Sutton,

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- 146. M.A., Mason, K.E., Bleeker, A., Hicks, W.K., Masso, C., Raghuram, N., Reis, S., Bekunda, M. (Eds.) Just enough nitrogen. Perspectives on how to get there for regions with too much and too little nitrogen (Chapter 37). Netherlands: Springer.
- 147. Tusiime FM, Gizaw A, Windimu T, Masao TA, Abdi AA, Muwanika V, Travnicek P, Nimomisa S, Popp M, Eilu G, Bronchman C, Pimentel M (2017) Sweet vernal grasses (Anthoxanthum) colonized African mountains along two fronts in the Late Pliocene, followed by secondary contact, polyploidization and local extinction in the Pleistocene. *Molecular Ecology*. 26 (13): 3513–3532
- 148. Uwimbabazi, M., Eycott, A.E., Babweteera, F., Sande, E., Telford, R.J., and Vandvik, V. (2017)Avian guild assemblages in forest fragments around Budongo Forest Reserve, western Uganda. Ostrich (In Press)
- 149. Valtonen A, Malinga GM, Nyafwono M, Nyeko P, Owiny A, Roininen H (2017). The successionalpathway of the tree community and how it shapes the fruit-feeding butterfly community in an Afrotropical forest. Journal of Tropical Ecology, 33: 12-21.
- 150. Van Heerwaarden, J., Baijukya, F., Boahen, S., Adjei-Nsiah, S., Ebanyat, P., Kamai, N., Wolde-Meskel, E., Kanampiu, F., Vanlauwe, B., Giller, K., 2017 Soyabean response to rhizobium inoculation across sub-Saharan Africa: patterns of variation and the role of promiscuity. Agriculture, Ecosystems and Environment, In press, DOI: 10.1016/j.agee.2017.08.016
- 151. Vanlauwe, B., Abdelgadir, A. H., Adewopo, J., Adjei-Nsiah, S., Ampadu-Boakye, T., Asare, R., Baijukya,F., Baars, E., Bekunda, M., Coyne, D., Dianda, M., Dontsop-Nguezet, P., Ebanyat, P., Hauser, S., Huising, J. E., Jalloh, A., Jassogne, L., Kamai, N., Kamara, A., Kanampiu, F., Kehbila, A. G., Kintche, K., Kreye, C., Larbi, A., Masso, C., Matungulu, K. P., Mohammed,

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I., Nabahungu, N. L., Nielsen, F., Nziguheba, G., Pypers, P., Roobroeck, D., Schut, M., Taulya, G., Thuita, M., Uzokwe, V.N. E., Van Asten, P., Wairegi, L., Yemefack, M., Mutsaers, H. J. W.,2017. Looking back and moving forward: 50 years of soil and soil fertility management research in sub-Saharan Africa. International Journal of Agricultural Sustainability, In Press, DOI: 10.1080/14735903.2017.1393038

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- 152. Vasudevan S, Kamat MM, Walusimbi SS, Pate JL, Ott TL.Biol Reprod. 2017. Effects of early pregnancyon uterine lymphocytes and endometrial expression of immune-regulatory molecules in dairy heifers.Jul 1; 97(1): 104-118. doi: 10.1093/biolre/iox061.
- 153. W. Ocimatia, G. Tusiime, F. Opio, M. A. Ugen and R. Buruchara. 2017. Sorghum (Sorghum bicolor) as a bean intercrop or rotation crop contributes to the survival of bean root rot pathogens and perpetuation of bean root rots. Plant Pathology. Doi: 10.1111/ppa.12699
- 154. Wanyama Joshua, Herbert Ssegane, Isaya Kisekka, Allan John Komakech, Noble Banadda, AhamadaZziwa, Tobias Oker Ebongo, Charles Mutumba, Nicholas Kiggundu, Ronald Kato Kayizi, Dominic Banaga Mucunguzi, and Florence Lubwama Kiyimba. Irrigation development in Uganda:Constraints, lessons learned and future directions perspectives. Journal of Irrigation and Drainage engineering, 1(1): 1-10, 2017.
- 155. Waswa, M., Kakuhenzire, R. and Ochwo-Ssemakula, M. 2017. Effect of thermotherapy duration, virus type and cultivar interactions on elimination of potato viruses X and S in infected seedstocks. *African Journal of Plant Science* 11(3): 61-70
- 156. Weelar, C.G., Lamo, J., Otim, M.H., Awio, B. and Ochwo-Ssemakula, M. 2017. Mode of inheritanceof resistance to the stalkeyed fly (Diopsis longicornis) in rice. *International Journal of Agronomyand Agricultural Research* 10(1): 9-20

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157. Whitney, C. W., J. R. S. Tabuti, O. Hensel, C.-H. Yeh, E. Luedeling, and J. Gebauer. 2017. Homegardens and the future of food and nutrition security in southwest Uganda. Agricultural Systems154 (2017) 133-144

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- 158. Whitney, C.W., Luedeling, E., Tabuti, J.R.S., Nyamukuru, A., Hensel, O., Gebauer, J., Kehlenbeck, K., 2017. Crop diversity in homegardens of southwest Uganda and its importance for rural livelihoods.Agriculture and Human Values. https: //doi. org/10.1007/s10460-017-9835-3
- 159. Yiiki F., N. Turyahabwe and B. Bashaasha. 2017. "Prevalence of Household Food Insecurity in wetland Adjascent Areas of Uganda." *Agriculture and Food Security*, Vol 63, No. 6.
- 160. Zziwa A., R Kambugu, AJ Komakech, N Kiggundu, G Miito, F Kyazze. Potential for Use of PineappleWaste to Enhance Soil Fertility on Smallholder Organic Farming in Kayunga District, Uganda.Agricultural Engineering International: CIGR Journal 19 (2), 12-21, 2017.

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Appendix 1: CAES Academic staff list as of August 2018

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School of Agricultural Sciences	Estab	Filled	Vacant				
Department of A	gribusi	ness Ar	nd Natura	l Resource Economi	CS		
Professor	2	5	-3	Mugisha Johnny	Μ	Permanent	Dean
Professor				Sserunkuuma Dick	М	Permanent	
Professor				Gombya Ssembajjwe William	Μ	Contract	
Professor				Bashaasha Bernard	М	Principal	
Professor				Hyuha Theodora S	F	Contract	
Associate Professor	3		3	Non		Non	
Senior Lecturer	6	3	3	Elepu Gabriel	Μ	Permanent	HOD
Senior Lecturer				Bonabana Jackline	F	Permanent	
Senior Lecturer				Bagamba Fredrick	М	Permanent	
Senior Lecturer				Diiro Gracious Malton	М	Permanent	
Lecturer	8	8	0	Ekere William	Μ	Permanent	
Lecturer				Balirwa Elizabeth K	М	Permanent	
Lecturer				Walekwa N Peter	Μ	Permanent	
Lecturer				Tatwangire Alex	Μ	Permanent	
Lecturer				llukor John	М	Probation	
Lecturer				Isoto Rosemary Emegu	F	Permanent	
Lecturer				Turinawe Alice	F	Permanent	
Assistant Lecturer	8	2	6	Bukenya Mohamed	М	Permanent	
Assistant Lecturer				Lwiza Florence Nsereko	F	Probation	
Department of A	gricultu	iral Prod	duction				
Professor	5	5	0	Bareeba Felix Budara	Μ	Contract	
Professor				Sabiiti Elly Nyambobo	М	Contract	

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Professor				Kyamanywa Samuel	Μ	Contract	
Professor				Tenywa Moses M	М	Permanent	
Professor				Tukamuhabwa Phinehas	М	Permanent	
Associate Professor	5	10	-5	Mutetikka David	М	Permanent	
Associate Professor				Basamba Ali Twaha Ateenyi	M	Permanent	
Associate Professor				Nabasirye Margeret	F	Contract	
Associate Professor				Karungi Jeninah	F	Permanent	
Associate Professor				Talwana Herbert	М	Permanent	
Associate Professor				Kabi Fred	Μ	Permanent	
Associate Professor				Mukasa Settumba Blasio	М	Permanent	
Associate Professor				Kugonza Donald Rugira	М	Permanent	
Associate Professor				Mpairwe Denis R/ Hod	М	Permanent	
Associate Professor				Tenywa Stephen	М	Contract	
Senior Lecturer	12	7	5	Tusiime Geofrey	М	Permanent	
Senior Lecturer				Edema Richard	М	Permanent	
Senior Lecturer				Ebanyat Peter	М	Permanent	
Senior Lecturer				Katongole Constantine Bakyusa	М	Permanent	
Senior Lecturer				Katusabe Alice Amoding	F	Permanent	
Senior Lecturer				Tumuhairwe John Baptist	Μ	Permanent	
Senior Lecturer				Bisikwa Jenipher	F	Permanent	
Lecturer	18	12	6	Tibayungwa Francis	М	Permanent	
Lecturer				Nambi-Kasozi Justine	F	Permanent	
Lecturer				Ssonko Robinah Namirembe	F	Permanent	
Lecturer				Nagaya Lukman Mulumba	Μ	Permanent	
Lecturer				Ochwo Ssemakula M K N	F	Permanent	

Lecturer				Wasswa Peter	М	Permanent	
Lecturer				Owor Elisabeth Betty	F	Probation	
Lecturer				Katuromunda Sylvester	Μ	Contract	
Lecturer				Olupot Giregon	М	Permanent	
Lecturer				Walusimbi Sadhat	М	Permanent	
Lecturer				Odong Thomas Lapaka	Μ	Permanent	
Lecturer				Zziwa Emmanuel	М	Probation	
Assistant Lecturer	16	6	10	Tibezinda Mary	F	Permanent	
Assistant Lecturer				Musinguzi Patrick	Μ	Permanent	
Assistant Lecturer				Kamatara Kanifa	F	Probation	
Assistant Lecturer				Magala Henry	M	Probation	
Assistant Lecturer				Mwije Anthony	M	Probation	
Assistant Lecturer				Idibu Joachine	M	Probation	
Department of E	Extensic	n and l	nnovation	Studies			
Department of E Professor	Extensic 2	n and li 1	nnovation 1	Studies Agea Jacob Godfrey/Hod	М	Permanent	HOD
Department of E Professor Associate Professor	Extensic 2 3	n and li 1 4	nnovation 1 -1	Studies Agea Jacob Godfrey/Hod Najjingo Mangheni M K	M F	Permanent Permanent	HOD
Department of E Professor Associate Professor Associate Professor	Extensic 2 3	n and li 1 4	nnovation 1 -1	StudiesAgea JacobGodfrey/HodNajjingoMangheni M KTuryahabweNelson	M F M	Permanent Permanent Permanent	HOD
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Department of E Professor Associate Professor Associate Professor Associate Professor Associate Professor Senior Lecturer	xtensic 2 3 5	n and li 1 4 3	-1 2	StudiesAgea JacobGodfrey/HodNajjingoMangheni M KTuryahabweNelsonKibwika PaulNabanogaGoretteMiiro Richard	M F M F F	Permanent Permanent Permanent Permanent Deputy Principal Permanent	HOD
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Department of E Professor Associate Professor Associate Professor Associate Professor Senior Lecturer Senior Lecturer Senior Lecturer	xtensic 2 3 5 5	n and li 1 4 3	2	StudiesAgea JacobGodfrey/HodNajjingoMangheni M KTuryahabweNelsonKibwika PaulNabanogaGoretteMiiro RichardIsubikalu ProssyKyazze FlorenceBirungiObaa BernardBonton	M F M M F F F F M	Permanent Permanent Permanent Permanent Deputy Principal Permanent Permanent Permanent Permanent	HOD
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Department of E Professor Associate Professor Associate Professor Associate Professor Senior Lecturer Senior Lecturer Senior Lecturer Senior Lecturer Lecturer Lecturer	xtensic 2 3 5 5 8	n and li 1 4 3 3 5	2 3	StudiesAgea JacobGodfrey/HodNajjingoMangheni M KTuryahabweNelsonKibwika PaulNabanogaGoretteMiiro RichardIsubikalu ProssyKyazze FlorenceBirungiObaa BernardBontonBaryabaho FrankMSseguya Haroon	M F M F F F F F F M M M	Permanent Permanent Permanent Permanent Deputy Principal Permanent Permanent Permanent Permanent Permanent Permanent	HOD

Lecturer				Karuhanga Monica	F	Permanent	
Assistant Lecturer	8	6	2	Orum Emuria Boniface	Μ	Probation	
Assistant Lecturer				Mulugo Lucy	F	Permanent	
Assistant Lecturer				Mubangizi Narisi	М	Probation	
Assistant Lecturer				Mawa Christopher	М	Permanent	
Assistant Lecturer				Karubanga Gabriel	М	Probation	
Assistant Lecturer				Mukebezi Rebec- ca	F	Permanent	
School of Food	Techno	lohy, Nı	utrition an	d Bioengineering			
Department of F	ood Te	chnolog	gy and Nu	itrition			
Professor	1	3	-2	Muyonga John	Μ	Permanent	Dean
Professor				Kaaya Archileo	М	Permanent	HOD
Professor				Muyanja Charles	М	Permanent	
Associate Professor	1	2	-1	Byaruhanga Yusuf	М	Permanent	
Associate Professor				Nakimbugwe Ndawula Dorothy	F	Permanent	
Senior Lecturer	3	6	-3	Kabahenda Margaret	F	Permanent	
Senior Lecturer				Atukwase Abel	Μ	Permanent	
Senior Lecturer				Mukisa Muzira Ivan	М	Permanent	
Lecturer	4	4	0	Acham Hedwig	F	Permanent	
Lecturer				Nabubuya Agnes	F	Permaanent	
Lecturer				Turyashemererwa Mary Florence	F	Permanent	
Lecturer				Tumuhimbise Gaston Ampek	М	Permanent	
Assistant Lecturer	4	3	1	Mugabi Robert	М	Permanent	
Assistant Lecturer				Lukwago Fred Brany	М	Permanent	
Assistant Lecturer				Mutambuka Martin	Μ	Permanent	
Pilot Plant Supervisor				Balamaze Joseph	Μ	Permanent	
Department of A	gricultu	ural and	Biosyste	ms Engineering			
Professor	1	1	0	Banadda Noble Ephraim/Hod	М	Permanent	

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Associate Professor	2	2	0	Kyamuhangire William	М	Permanent	
Associate Professor				Zziwa Ahamada	М	Permanent	
Senior Lecturer	4	6	-2	Kawongolo John Bosco	Μ	Permanent	
Senior Lecturer				Wanyama Joshua	М	Permanent	
Senior Lecturer				Kiggundu Nicholas	М	Permanent	
Senior Lecturer				Komakech Allan John	M	Permanent	
Senior Lecturer				Kabenge Isa	М	Permanent	
Senior Lecturer				Kivumbi Hussein Balimunsi	М	Permanent	
Lecturer	4	9	-5	Iwadra Michael	М	Permanent	
Lecturer				Mulamba Peter	М	Permanent	
Lecturer				Kambugu Kyeyune Robert	М	Permanent	
Lecturer				Kigozi Bulya Julia	М	Permanent	
Assistant Lecturer	4	1	3	Tumutegyereize Peter	Μ	Permanent	
Cohool of Forest	trv Envi	roment	al and Ge	ographical Science			
School of Fores	ci y, L i i vi						
Department of F	⁻ orestry,	, Biodive	ersity and	Tourism			
Department of F Professor	orestry,	Biodive	ersity and	Tourism Nyakaana Jockey Baker	М	Contract	
Department of F Professor Professor	Forestry,	Biodive 5	ersity and	Tourism Nyakaana Jockey Baker Banana Abwoli Yabezi	M	Contract Contract	
Department of F Professor Professor Professor	Forestry,	Biodive 5	-1	Tourism Nyakaana Jockey Baker Banana Abwoli Yabezi Tweheyo Mnason/ Dean	M M M	Contract Contract Permanent	
Department of F Professor Professor Professor Professor	Forestry,	Biodive 5	-1	Tourism Nyakaana Jockey Baker Banana Abwoli Yabezi Tweheyo Mnason/ Dean Nyeko Philip /Hod	M M M M	Contract Contract Permanent Permanent	Hod
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Department of F Professor Professor Professor Professor Professor Associate Professor Associate Professor Associate Professor Associate Professor Associate Professor	4 4	Biodive 5 5 5	-1 -1	Tourism Nyakaana Jockey Baker Banana Abwoli Yabezi Tweheyo Mnason/ Dean Nyeko Philip /Hod Obua Joseph Eilu Gerald Okullo John Bosco Babweteera Fred Ahebwa W Manyisa	M M M M M M M M	Contract Contract Permanent Permanent Permanent Permanent Permanent Permanent	Hod
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School of PolesDepartment of FProfessorProfessorProfessorProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessorAssociateProfessor	4 4	Biodive 5 5 5	-1 -1	Tourism Nyakaana Jockey Baker Banana Abwoli Yabezi Tweheyo Mnason/ Dean Nyeko Philip /Hod Obua Joseph Eilu Gerald Okullo John Bosco Babweteera Fred Ahebwa W Manyisa Mwavu Nector Edward Balaba Susan Tumwebaze	M M M M M M M M M	Contract Contract Permanent Permanent Permanent Permanent Permanent Permanent Permanent Permanent	Hod 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

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Senior Lecturer				Mugabi Paul	М	Permanent	
Senior Lecturer				Nakabonge Grace	F	Permanent	
Senior Lecturer				Orikiriza Baguma Lawrence Justus	М	Permanent	
Senior Lecturer				Ayorekire Jim	М	Permanent	
Lecturer	10	4	6	Mbogga Michael Ssekaayi	М	Permanent	
Lecturer				Nagawa Christine Betty	F	Permanent	
Lecturer				Muhwezi Deus Kamunyu	Μ	Permanent	
Lecturer				Rutabatiina Abra- ham Mwesigye	Μ	Permanent	
Assistant Lecturer	10	7	3	Byaruhanga Micheal	Μ	Probation	
Assistant Lecturer				Kimbowa Francis	М	Probation	
Assistant Lecturer				Mugizi Francis	М	Probation	
Assistant Lecturer				Kizito Francis	М	Permanent	
Assistant Lecturer				Sseremba Owen Emmanuel	М	Permanent	
Assistant Lecturer				Syofuna Agatha	F	Permanent	
Assistant Lecturer				Ssekuubwa Enock	М	Permanent	
Department of E	Invironn	nental N	<i>l</i> anagem	ent			
Professor	3	3	0	Kansiime Frank	М	Permanent	
Professor				Tabuti John Robert Stephen	М	Permanent	
Professor				Okot Okumu James	М	Permanent	HOD
Associate Professor	3	2	1	Muwanika Bampalana Vincent	М	Permanent	
Associate Professor				Tumusiime David D M	М	Permanent	
Senior Lecturer	6	3	3	Namaalwa Justine	F	Permanent	
Senior Lecturer				Nakileza Roga Bob	М	Permanent	
Senior Lecturer				Egeru Anthony	М	Permanent	
Lecturer	8	4	4	Musaali Paul	М	Permanent	
Lecturer				Muhwezi Alfred Derek	Μ	Permanent	

College of Agricultural & Environmental Sciences (CAES)

Lecturer				Byakagaba Pat- rick	М	Permanent	
Lecturer				Nyombi Kenneth	М	Permanent	
Assistant Lecturer	8	6	2	Nalwanga Faridah S	F	Permanent	
Assistant Lecturer				Natumanya Ezrah	Μ	Permanent	
Assistant Lecturer				Kayendeke Ellen	F	Permanent	
Assistant Lecturer				Erima Godwin	Μ	Permanent	
Assistant Lecturer				Yikii Fred	Μ	Permanent	
Assistant Lecturer				Balikoowa Kenneth	Μ	Permanent	
Department of G	Geograp	ohy, Geo	o-Informa	tics and Climatic Sc	ienc	es	
Professor	3	1	2	Majaliwa J G Mwanjalolo	Μ	Contract	
Associate Professor	3	4	-1	Lwasa Shuaib	Μ	Permanent	
Associate Professor				Tumwine Fredrick	M	Permanent	
Associate Professor				Bamutaze Yazidhi	M	Permanent	HOD
Associate Professor				Mugagga Frank	M	Permanent	
Senior Lecturer	6	4	2	Twinomuhangi Revocatus	M	Permanent	
Senior Lecturer				Waiswa Daniel	Μ	Permanent	
Senior Lecturer				Isolo Mukwaya Paul	M	Permanent	
Senior Lecturer				Mfitumukiza David	Μ	Permanent	
Lecturer	10	4	6	Nanteza Jamait	F	Permanent	
Lecturer				Nimusiima Alex	М	Permanent	
Lecturer				Twinorugyendo Penninah	Μ	Permanent	
Lecturer				Sabiiti Geoffrey	Μ	Permanent	
Assistant Lecturer	8	4	4	Ddumba Saul Daniel	М	Permanent	
Assistant Lecturer				Wasswa Hannington	Μ	Permanent	
Assistant Lecturer				Mugume Isaac	Μ	Permanent	
Assistant Lecturer				Nseka Denis	Μ	Probation	

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Appendix II: CAES Administrative and Support staff as of August 2018

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	Name	Designation	
Princ	ipal's Office		
1	Bashaasha Bernard	Professor/Principal	
2	Nabanoga Gorettie	Ass. Prof/ Deputy Principal	
3	Vianney Baguma	College Bursar	
4	Micheal Ereget	Accountant	
5	Terry Namusoke	Assistant Accountant	
6	Mbabazi Grace	Assistant Accountant	
7	Joseline Akatukiza	College Accountant	
8	Edward Obura	College Registrar	
9	Pauline Kyarisiima	Secretary	
10	Hawa Harriet	Principal Human Resource	
11	Dinah Acheko	Records Officer	
12	Rose Namirembe	Office Attendant	
13	Muhairwe Jude	Custodian	
14	Wilson Kisembo	Office Attendant	
15	Kisoro James	Web Administrator	
16	Ikomo David	Procurement Officer	
17	Niyonzima Dismas	Assist. Procurement Officer	
18	Eric Mukonzi	Driver	
19	Anyango Jane	Principal Communication Officer	
20	Mary Nantale	Administrative Secretary I	
Agrib	usiness And Natural Resources Eco	nomics	
21	Mary Nalukwago	Cleaner	
22	Kizza Odeta	Cleaner	
23	James Nsamba	Technician	
24	Julius Twinamatsiko	Assistant Lecturer	
25	Nelson Nsereko	Lecturer	
26	Francis Bainomugisha	Lecturer	
27	Immaculate Nakafeero	Pool Stenographer	
28	Salongo Sserugyendo Jonnes	Cleaner	

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MUB	FS Kibale		
29	Tumukunde Hebert	Accounts Clerk	
30	Kato Innocent	Ass. Domestic Bursar	
31	Berunga Winfred	Clerk Of Works	
32	Tumusiime Yosinta	Office Attendant	
33	Kemigisha Patience	Stores Asst.	
34	Tumushabe Janet	Librarian	
35	Kabacwamba Mary	Library Assistant	
36	Kugonza Robert	Headman	
37	Kakyo Malyamu	Cook	
38	Kyalimpa Wilson	Driver	
39	Mwesige Benedicto	Groundsman	
40	Byaruhanga Andrew Simon	Security Guard	
41	Kasaija Ebenezer	Security Guard	
42	Mugisha Expedito	Security Guard	
43	Asaba Willaim	Security Guard	
44	Sabiiti Charles	Trail Cutter	
45	Rutenta Wilson	Trail Cutter	
46	Bamukusa Francis	Trail Cutter	
47	Nyakahuma Richard	Trail Cutter	
48	Zahura James	Trail Cutter	
49	Kisembo Vicent	Trail Cutter	
50	Tibeya Adolphus	Trail Cutter	
51	Katuramu Clovis	Trail Cutter	
52	Kusemererwa Charles	Trail Cutter	
53	Atuhaire Samuel	Trail Cutter	
54	Birungi Charles	Trail Cutter	
Geog	.Geo Informatics and Climatic Scien	ces	
55	Yazidhi Bamutaze	Head	
56	Phoebe Tumwesigye	Secretary	
57	Nanteza Florence	Librarian	
58	Kisitu Daniel	Lab. Attendant	
59	Magawa George	Cartographer	
60	Munyigwa Violah	Office Attendant	
61	Namirembe Gorretti	Cleaner	
62	Opedes Hosea	Graduate Fellow	
63	Jesse Kisembo	Research Assistant	
64	Rhoda Nakabugo	Research Assistant	

College of Agricultural & Environmental Sciences (CAES)

65	Charles Were	Cleaner	
66	Catherine Nanozi	Cleaner	
Exter	nsion and Innovation Studies		
67	Agea Jacob Godfrey	Professor/Head	
68	Kasujja Geoffrey	Lab Assistant	
69	Ndagire Deborah	Messenger	
Dear	i's Office School of Forestry, Environr	mental and Geographical Sciences	
70	Mnason Tweheyo	Prof/Dean	
71	Nakiyemba Consolate	Admin. Secretary II	
72	Onan Mulumba	Librarian	
73	Ssentomero Dan	Technician	
74	Mirembe Hellen	Registrar	
75	Lutalo William	Technician	
76	Namukwaya Ruth	Lab. Attendant	
77	Namala Betty	Librarian	
78	Nabaggala Jessica	Librarian	
79	Kasozi David	Driver	
80	Kusemererwa Aggrey	Driver	
81	Nankunda Bennet	Custodian	
82	Wabuyele Simon	Security Guard	
83	Kamukech Patrick Roy	Security Guard	
84	Teopista Nalugo	Sanitary & Compound Cleaner	
85	Kella Sombi	Cleaner	
86	Musoke Harriet	Cleaner	
87	Nagawa Maimuna	Cleaner	
88	Namukwaya Margaret	Cleaner	
Dear	's Office, School of Agricultural Scie	nces	
89	Johhny Mugisha	Professor/Dean	
90	Musoke Robinah Susan	Principal Copy Typist	
91	Sarah Nanziri	Personal Secretary	
92	Hilda Mukune	Registrar	
93	Mrs.Goretti Mayanja	Head Cleaner	
94	Kiggundu Habibu	Cleaner	
95	Nsubuga Micheal	Cleaner	
96	Nankya Tereza	Sanitary Cleaner	
97	Owere Charles	Sanitary Cleaner	
98	Nasanga Constancy	Sanitary Cleaner	
99	Mweyeretsi James	Sanitary Cleaner	

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100	Mabonga Wilson	Driver
101	Mubiru Siraje	Driver
102	Buzimwa Muhamad	Turn Boy
103	Wairagala Bonny	Turn Boy
104	Kayima Humaru	Security Guard
105	Christine Alelo	Security Guard
106	Egesa Isaac Obuli	Chief Custodian
107	Nantale Agnes	Cleaner
108	Albert Muhumuza	It Systems Admin.
109	Birungi Rose	Cleaner
110	Nasita Bamuranje	Cleaner
Envir	onmental Management	
111	James Okot-Okumu	Professor/Head
112	Herbert Tushabe	Data Manager
113	Mukalazi Ronald	Systems Admin
114	Kissa Japhes	Accounts Assistant
115	Betty Lutaaya Bukenya	Secretary
116	Tibakunirwa Christine	Secretary
117	Nsobya Joseph	Librarian
118	Namukasa Annet	Ass. Librarian
119	Naggayi Teddy	Cleaner
120	Ntale John	Cleaner
121	Ayua Andrew	Guard
122	Baako Nicholas	Guard
123	Johnson Mayega	Lab Technician
Food	Technology & Nutrition	
124	John Muyonga	Professor/Dean
125	Archileo N Kaaya	Professor/Head
126	Joseph Balamaze	Pilot Plant Supervisor
127	Eugene N. Manda	Senior Technician
128	Dorothy Nabakabya	Senior Technician
129	Emmanuel Okalany	Technician
130	Jessica Kaahwa	Secretary
131	Ponsiano Sendegeya	Lab. Attendant
132	Charles Kibirango	Security Guard
133	Tenywa Ivan	Security Guard
134	Magal John Joseph	Security Guard
135	Kidyanyi Paul	Security Guard

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136	Emuron Everest	Cleaner	
137	Juliet Nasanga	Cleaner	
138	Justine Namubiru	Cleaner	
139	Sarah Namuddu	Cleaner	
140	Teopista Namayanja	Cleaner	
141	Kaitesi Benny	Cleaner	
142	Margaret Kabanda	School Librarian	
143	Grace Apili	Assistant Registrar	
144	Edward Seguya	School Accountant	
145	Francis Mugisa	Chief Custodian	
146	Jimmy Ntambi	Driver	
Staff	on Contract (Technical and Support)	FTN	
147	Julius Wambete	Technical Services Coordinator	
148	Allan Nkinzehiki	Technical Assist. Pilot Plant	
149	Racheal Byarugaba	Technical Assistant Chemistry Lab	
150	Stella Byakika	Technical Assistant Microbiology Lab	
151	Sheilla Natukunda	Technical Assistant Chemistry Lab	
152	Rukundo Isaac R	Technical Assistant	
153	Tom Bossa	Technical Assistant	
154	Busulwa Deo	Technical Assistant	
155	Buule Derick	Technician	
156	Akech Joyce	Cleaner	
157	Doreen Nabachwa	Marketing Assistant FTBIC	
158	Wamala Robert	Computer Lab Technician	
159	Walusimbi Peter Kibule	Mobile Processing Plant Atten- dant/Driver	
160	Gorret Namukwaya	Office Assistant	
161	Bosco Sebulime	Cleaner	
162	Muwaya Racheal	Cleaner	
163	Meshach Mayanja	Cleaner	
164	Peter Kawesa	Cleaner	
165	Ruth Odoi	Cleaner	
166	Najjingo Betty	Cleaner	
167	Komugisha Nice	Lab Attendant	
168	Mbonyitware Darius	Day Security Guard	
169	Sebulenzi Aniseti	Night Security Guard	
170	Babirye Sylivia	Cleaner	
171	Namome Sarah	Cleaner	

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Agricultural and Biosystems engineering			
172	Noble Banadda	Professor/Head	
173	Ernest Tibakuzira	Principal Technician	
174	Annet Nanyonga	Secretary	
175	James Makubuya K	Technician li	
176	John Tumwijukye	Ox Man	
177	Ronald Nsobya	Ox Man	
178	Emmanuel Nabyama	Tractor Driver	
179	Imelda Nakalema	Cleaner	
Agric	ultural Production		
180	Dr. Denis Mpairwe	Head	
181	Aguttu Gorreti	Laboratory Assistant	
182	Kiirya David	Principal Technician	
183	Kyeyune Gerald.	Principal Technician	
184	Balikuddembe Bonny	Senior Technician	
185	Katende Serunjogi Steven	Senior Technician	
186	Katongole Ignatius	Senior Technician	
187	Kakooza Lydia	Technician I	
188	Muhereza David B.	Technician	
189	Mutebi Emmanuel	Technician I	
190	Mzee Patrick	Technician	
191	Natumanya Robert	Technician I	
192	Nandera Ann Stella	Lab Technician	
193	Najjuma Christine	Assistant Technician	
194	Ogwal Simon Peter	Technician	
195	Nakaana Peninah	Secretary	
196	Nagaddya Harriet	Lab. Attendant	
197	Kawooya Teddy Mary	Lab.Attendant	
198	Nanozi Margaret	Lab.Attendant	
199	Nabimanya Deborah	Messenger/Cleaner	
200	Kyobutungi Edith B. Ninsiima Dani	Messenger/Cleaner	
201	Bukenya Joseph	Cleaner	
202	Kabonesa Grace	Cleaner	
203	Ndaba Andrew	Cleaner	
204	Ssempijja Steven	Cleaner	
205	Muhereza Richard	Labourer	
206	Nantale Agnes	Labourer	
207	Onyera Mary	Labourer	

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208	Sekitoleko Samuel Sebaana	Causal Labourer - Poultry	
209	Muhumuza Jackson	Causal Labourer - Animal	
MUA	RIK		
210	Ahangaana Julius Peter	Ag. Farm Manager	
211	Dr. Stephen Lwasa	Asst. F.Manager – Crops	
212	Tweyambe Chrysostom	Training Coordinator	
213	Aziz Dara Charles	Foreman	
214	Mr. Banjwa H. Samuel	Asst. Foreman	
215	Mr. Okello Richard	Carpenter	
216	Katongole Samuel	Electric	
217	Samanya Alex	Tractor Driver	
218	Kiwanuka Robert	Tractor Driver	
219	Musoma Moses	Driver	
220	Bako Nataliya	Stock Woman Poultry	
221	Musisi Vincent	Sanitary Cleaner	
222	Ntongo Edith	Sanitary Cleaner	
223	Mwanda John	General Farm Worker	
224	Mutungire Boaz	General Farm Worker – Pastures	
225	Toko George	General Farm Worker Mechanics	
226	Kaaja Yusuf	General Farm Worker Field Crops	
227	Nabwire Immaculate	General Farm Worker Stores	
228	Male Stuart	General Farm Worker Field Crops	
229	Nambaziira Harriet	General Farm Worker Records	
230	Musisi Godfrey	General Farm Worker Sales	
231	Nambooze Joyce	General Farm Worker Field Crops	
232	Byekwaso Denis	General Farm Worker Field Crops	
233	Ssentamu Godfrey	General Farm Worker Field Crops	
234	Sekalyowa Joseph	General Farm Worker Field Crops	
235	Nabisubi Kasifa	General Farm Worker Field Crops	
236	Namutebi Annet	General Farm Worker Field Crops	
237	Nuwagaba Abias	General Farm Worker Field Crops	
238	Mwanda Jesca	General Farm Worker Field Crops	
239	Ndezaho Godfrey	General Farm Worker Field Crops	
240	Nandawula Margret	General Farm Worker Field Crops	
241	Nanfuka Harriet	General Farm Worker Field Crops	
212	Zaguma Godfrey	General Farm Worker Dairy Unit	
243	Twesigye Moses	General Farm Worker Stores	
244	Namara Mercy	Soybean Project	

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245	Yiga George	Soybean Project	
246	Ssenkubuge Yafesi	Soybean Project	
Unde	er Muarik paid by CAES		
247	Muguruka Lugard	Accounts Assistant	
248	Kwagala Grant	Head Of Livestock	
249	Nabukalu Racheal	Admin. Assistant	
250	Kalenzi Festo	General Farm Worker Horticul- ture	
251	Nakigozi Annet	General Farm Worker Horticulture	
252	Nalugoye Grace	General Farm Worker Horticulture	
253	Ndenzaho Dominic	General Farm Worker Compound	
254	Ssemambo Joseph	General Farm Worker Piggery	
255	Orakigambe David	General Farm Worker Plumber	
256	Byaruhanga Richard	General Farm Worker - Dairy Unit	
257	Namwanje Robinah	General Farm Worker Field Crops	
258	Nanfuka Sarah	General Farm Worker Field Crops	
259	Baleeba John	General Farm Worker Banana	
260	Segawa Mike	Demonstration	
261	Ssevume Geofrey	Library Assistant	
262	Lubogo H Frank	Library Assistant	
263	Taremwa Precious	Dairy Unit Head	
264	Mufumbiro Moses	Feed Mill	
265	Agaba Issa	Dairy Herds Men	
266	Ayebare Isaac	Dairy Herds Men	
267	Otema Timothy	Dairy Herds Men	
268	Bagyenyi Mark	Dairy Herds Men	
269	Magoola Patrick	Feed Mill	
Security Guards at MUARIK			
270	Owor Julius	Supervisor	
271	Ambayo Bosco	Guard	
272	Draluma Godfrey	Guard	
273	Mugisha Davis	Guard	
274	Candia Patrick Oleya	Guard	
275	Kiggundu Geofrey	Guard	
276	Ojangor Martin	Guard	
277	Ajawo Willian	Guard	

College of Agricultural & Environmental Sciences (CAES)

CAES HONOURS THREE (3) PROFESSORS FOR THEIR DISTINGUISHED SERVICES OFFERED TO MAKERERE UNIVERSITY

- DVC (AA) hails CAES Principal for the spirit of recognizing colleagues and instituting the culture of togetherness
- Staff dine , wine and dance to their last drop
- All staff get Christmas coupons worth shs.120,000

Three professors at Makerere University College of Agricultural and Environmental Sciences were on Friday 14th December, 2018 honored for their distinguished services offered to Makerere University after serving in leadership positions for many years.



L-R: Dr. Abel Atukwase, Prof. Phinehas Tukamuhabwa, Prof. John Muyonga, Prof. Mnason Tweheyo, DVCAA-Dr. Umar Kakumba, Prof. Bernard Bashaasha, Prof. Johnny Mugisha and Prof. Fred Babweteera cut the ceremonial cake at the CAES party in honor of the three professors.

Prof. Mnason Tweheyo and Prof. John Muyonga were recognized for serving as Deans for the past 8 years since the university turned collegiate in 2011 in the School of Food Technology, Nutrition and Bioengineering and the School of Forestry, Environmental and Geographical sciences respectively. Prof. Phinehas Tukamuhabwa was honored for serving as Director Makerere University Agricultural Research institute from 2014 to 2018.

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The Awards handed over to outgoing leaders Prof. Phinehas Tukamuhabwa, Prof. John Muyonga and Prof. Mnason Tweheyo

The ceremony held at the Forestry Gardens Quadrangle was presided over by the 1st Deputy Vice Chancellor (Academic Affairs) Dr. Umar Kakumba. Dr. Kakumba hailed the CAES Principal for the spirit of recognizing colleagues for their services and instituting a culture of togetherness.

"I understand the importance of building human enterprise to be motivated. It is not about working and making money all the time because as humans you reach a saturation point where you need to relax. Such events build cohesion, understanding and builds capacity for one another", Dr. Kakumba said.

The DVC AA congratulated the outgoing professors for their contributions to the nation and Makarere university.

Dr. Kakumba appreciated the great work done by Prof. Muyonga saying, he shared with him the same history of being first Dean and were involved in pertinent negotiations during the constitution of the collegiate system.

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The DVCAA-Dr. Umar Kakumba (L) hands over a plaque to outgoing Director MUARIK-Prof. Phinehas Tukamuhabwa (R) as Principal CAES-Prof. Bernard Bashaasha (C) applauds, during the CAES End of Year Party in honor of the professors.

"Prof. Muyonga has done great to commercialize the School of Food Technology, Nutrition and Bio engineering and agro processing at the Food Technology and Business incubation centre." Kakumba said.

Kakumba described Prof. Tweheyo as a colleague they studied with at the undergraduate level who grew very fast through academic ranks and also a contemporary with whom they came into leadership.

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"The school of forestry has expanded and has done a lot in entrepreneurship and building programs in terms of protecting natural resources, adding value and making them more important to the nation.

Under Prof. Tweheyo's leadership the school has played a great role in helping the nation to take care of the environment. He has positioned and positively transformed human resources in different aspects like climate change." The DVC (AA) acknowleged.

Dr. Kakumba also thanked Prof. Tukamuhabwe for leading the Makerere University Agricultural institute for four years and facelifting it to an admirable institute not only in research but other mandates like production and outreach. ۲



He recognized CAES as one of the strongholds who have supported him in terms of sharing knowledge in the senate in regard to the constitution and creation of colleges.

The DVCAA expressed commitment to support, visit CAES off campus sites for training and to champion the programs to contribute to the vision and mission of Makerere University.

"We should work together not as adversaries. We should not jeopardize each other. We shall support CAES innovations. You are our flag bearers in research and innovations and the university is I aware of that. This is what we need as a university to promote multi disciplinarity", he said.

The Principal CAES Prof. Bernard Bashaasha thanked the DVCAA for sparing time to come, and all staff for turning up in big numbers saying, the main objective of the ceremony was to say thank you to the outgoing Deans and Director MUARIK.

The second objective according to the Principal was to end the year together as they appreciate the services rendered by colleagues.

"In a special way, I thank the outgoing staff for their great service to the university. They have served with courage and acted with love, led with respect, integrity and passion. They have been value adding men and we are proud to have had them and hopefully, we will be guided in their way of management." Prof. Bashaasha stated.



The Incoming Dean, School of Forestry, Environmental and Geographical Sciences (SFEGS)-Prof. Fred Babweteera makes his remarks

The Principal also appreciated the incoming Deans for their willingness to serve. Dr. Abel Atukwase replaces Prof. John Muyonga while Prof. Fred Babweetere is replacing Prof. Mnason Tweheyo. Dr. Alice Turinawe replaced Prof. Phinehas Tukamuhabwa as Ag. Director MUARIK.



Ag. Director MUARIK- Dr. Alice Turinawe and the Incoming Dean, School of Food Technology, Nutrition and Bio engineering (SFTNB) - Dr. Abel Atukwase makes his remarks

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He advised the new deans to consider themselves as God given with a major assignment of developing the youth. He said, although there many demands and expectations, they should not worry about the great things their predecessors have done but rather identify and run their own race and seek support.

He described CAES as diverse college made of three schools and two off campus institutes deriving its strength in that diversity.



Principal CAES-Prof. Bernard Bashaasha thanked the outgoing leaders for being exemplary managers. He pledged to invite the new DVC AA for a visit to appreciate the college opportunities and needs.

Every end of year, the CAES organizes a get together party to appreciate services offered by outgoing or retiring staff. The event also offers the opportunity to staff to have fun and network. Staff are also given Christmas coupons worth shs.120, 000 as take-home appreciation (see pic).

PICTORIAL OF THE CAES END OF YEAR PARTY IN HONOR THE THREE PROFESSORS

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1. Staff Assemble







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2. Speeches

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3. Dinning /eating

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5. Cutting the cake

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FOR THESE AND MORE

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> P.O. Box 7062, Kampala – Uganda Tel: 0414 542277 Email: principal@caes.mak.ac.ug/pr@caes.mak.ac.ug Website: www.caes.mak.ac.ug