



Directorate of Research and Graduate Training

Strategic Research, Innovation, and Commercialization Plan, 2021 -2030

STRATEGIC THEME:

'Unlocking the Potential of MAKERERE UNIVERSITY as the Regional Knowledge Hub'

VISION:

To be a thought leader of knowledge generation for societal transformation and development

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Foreword

Makerere University is building a better, more sustainable world by involving itself more actively in the resolution of global problems. Multidisciplinary research, teaching and learning of a high standard generate new knowledge and know-how for the benefit of humankind. Forward and fresh thinking, an attentive and proactive attitude, and creative interaction will help the University to solidify its position among the foremost universities in the world.

In line with the University vision of *“Unlocking the potential of Makerere University as a regional hub”*, the Directorate intends to foster and manage graduate training and research by University units by promoting quality research, publication and dissemination of knowledge and innovations to meet the changing needs of society and for sustainable development.

Throughout the past year, the Directorate has undergone a comprehensive strategic planning process that included consultations with the Faculty, students, University management Committee and wide public. Together, we considered how best to continue providing excellence in graduate education in the 21st-century landscape of higher education. We identified strengths and areas for change, and we explored all possible ways to increase efficiency without adversely impacting service.

These conversations helped us to realign our organizational structure in order to better address our core service functions and to lay out a series of action areas that will guide our work during the next strategic planning period, 2020 -2030.

What follows on these pages gives an overview of how we envision taking excellence in graduate education and research during the 10-year planning horizon.

Prof. Barnabas Nawangwe

Vice Chancellor

Executive Summary

This strategic plan is a successor to the one that has been under implementation for 10 years (2008 - 2019), when the University implemented the reform process and embraced the College model of governance in November, 2010. In terms of organizational set up and day to day management, this requires a review of the strategic plan in order to support the University's core areas of research, teaching and learning and knowledge transfer partnerships. As part of the transition to the College model, new a successor 5 year strategic plan - 2013 to 2018 is deemed necessary. Similarly, the Directorate of Research and Graduate Training (DRGT) ten year strategic plan is meant to support the overall University strategy in redefining the road map of the University over the next five years (2013 - 2018) towards relevant training, research, and outreach.

In contributing towards attainment of that vision as a service unit to constituent units of the university, the DRGT sees itself as a vibrant graduate training and research coordinating unit in Makerere University as the premier Institution in the country and region, producing high-performing graduates, who are innovative, responsive to demand and leaders in development activities at national or regional level. This will be achieved through its mission, *"To oversee, coordinate and provide an enabling environment for high quality graduate training, research, dissemination of research findings, and outreach"*

To this end, the DRGT has set itself 4 strategic objectives in the next 5 years. These are:

- 1). To improve DRGT capacity to efficiently and effectively coordinate and manage relevant graduate training and university wide research
- 2). To enhance research communication, networks and partnerships nationally and internationally
- 3). To source funds to improve DRGT capacity to support research, training, outreach and publication in Makerere University
- 4). To initiate and promote policies that support graduate training and innovative research

By the end of the ten years, the Directorate expects the outcomes below:

- Effective & efficient management and coordination and monitoring of research & graduate training at Makerere
- Academic staff that have research & financial management skills and are competent and motivated to supervise research
- Networks & collaboration in research & graduate training within the university improved
- ICT integrated research and graduate training
- Research income to the university increased
- Makerere University is on the cutting edge of research, conducts relevant research, and is producing quality graduate students.

All these are expected to significantly contribute to the realisation of the mission of the University: *"To be a leading institution for academic excellence and innovations in Africa"*.

Prof Buyinza Mukadasi

Director

1.0 INTRODUCTION

1.1. Background

Makerere University recognizes research as a pillar of both institutional and national development. Emphasis on research is also based on the realization that capacity for knowledge production, innovation and effective utilization are now recognized as key sources for growth and competitiveness in the globalized economy. Creating the environment and capacity for knowledge generation, innovations and utilization are drivers in repositioning Makerere University as a research led-University (Makerere Strategic Plan 2008/09-2018/19). To operationalise the research thrust and guide investment in research and innovation, the University has a research agenda. The agenda takes cognisance of the national development framework, the policy on science, technology and innovation of the UNCST and global and regional development frameworks. The areas of focus include: Health and Health Systems; Agricultural (crop & Livestock) transformation, Food Security and Livelihoods; Natural Resources Governance and Climate Change; Education and Education Systems; Governance, Culture, Social Justice and Sustainable development; Science and Technology. The cross-cutting areas include Biotechnology, Knowledge Translation, Gender and Human Resource Development. With the research orientation, academic staff is required to devote at least 20% of staff time to research (Makerere Research and Innovations Policy, 2008).

The purpose of graduate training is to impart skills to the students in the art and science of scholarship, and broader skills acquisition, but above all, to develop independent and critical thinkers able to conduct quality research and innovations. The end products are researchers who can engage with the broader environment of stakeholders as well as the knowledge economy in order for them to remain relevant to local conditions. The graduate students learn scientific methodology, critical analysis and independence in their studies. The training and research programmes stimulate them to adopt a scientific attitude which includes the ability to formulate questions, to give structure to a scientific and socially oriented argument, to find adequate methods and theories for tackling problems and to be able to reflect critically on the subject of their thesis, able to apply the newly acquired skills and knowledge, including innovations. The students are expected to probe deeply into their subjects and be at the forefront of research and innovation in their field. Research is a craft, and the dissertation and/or innovation is the masterpiece—the evidence that the practitioner is now a fully-fledged craftsman and a skilled specialist in the knowledge economy world.

The Directorate is the unit that coordinates graduate training and research at Makerere University. Prior to 1994, graduate training in the university handled largely at Faculty level. In 1994 management and coordination of graduate training was redesigned to be centrally coordinated by a Graduate School. Since then the school has steadily grown from handling only post graduate diplomas, to handling numerous graduate programmes ranging from certificate courses through diplomas, MSc's and PhDs. In 2000, the school developed a five year strategic plan for the period 2000 to 2005. The plan focused on three key pillars of training, research and outreach/community service. These three pillars were an attempt to refocus the University's operations towards national development, by engaging in training and the national innovation systems. There is therefore need to review the strategic plan in order to provide DRGT with a competitive edge in terms of efficiency, relevance and effectiveness in graduate level training, research, outreach and publication in the country and region. Under

the auspices of Senate, the Directorate of Research and Graduate Training in collaboration with the Colleges/Schools is responsible for the conduct of graduate studies at Makerere University. Its mandate is to support student achievement consistent with the highest possible academic standards in graduate degree programs and to foster excellence in graduate student research.

2. Review of the past Strategic Plan Performance

The Directorate has been implementing a 10-year Strategic Plan 2008/09 – 2018/19 to guide in repositioning herself to meet the emerging development challenges. The Plan was developed in the quest to provide quality higher education within the mandate stipulated by the Universities and Other Tertiary Institutions Act 2001 as amended. While several milestones were reached through the implementation of the Plan, missed opportunities were also recorded. Furthermore, there has been a change in the operational environment. New frameworks that will impact on the operations of the University have emerged, key among these are: the development of the Sustainable Development Goals in 2015; the formulation of Agenda 2063 by the African Union; and the institution of the National Development Plan II and Vision 2040.

Council at its meeting held on 29th November 2017, acknowledged the shortfalls in the implementation of the outgoing plan, the changed environment and the need to sustain the institution as the National Flagship and Premier University in Uganda.

Council identified inhibiting factors that need to be addressed as the University moves into the next planning cycle. At the national level, the need to evaluate the **placement of Makerere University in the National Development Agenda** reflected in the resource allocation stood out. At institutional level, the key areas of concern as identified include: **human resource challenges** mainly the fear of taking decisions, resistance to change, **weak enforcement of policies, inherent distortions in sharing of Appropriation in Aid, uncoordinated setting of priorities and financial management challenges**; as well as the need to evaluate the performance in the implementation of the College and Non-teaching Unit Strategic Plans.

2.1. Achievements during past Strategic plan 2008 - 2018

In the past 10 years during the implementation of the DRGT Strategic Plan 2008- 2020, the DRGT has registered a number of achievements which have been highlighted below:

- Registered increase of graduate training enrolment from 2756 in 2014/2015 to 4000 in 2018/2019
- The Unit repositioned itself from School of Graduate Studies to Directorate in 2011 with a bigger mandate of overseeing graduate training
- Increased Capacity to carry out quality and relevant research at Makerere University
- An enabling environment for the retention of post-doctoral graduates at Makerere University strengthened: A positive harmonious, transparent and efficient environment is essential to foster research and innovation in the University.
- Growth in the International stature of Makerere University: All forms of research outputs by the teams shall be uploaded on the centrally-managed web portal. All the research findings will be uploaded to the web portal for the wider readership and citation.

- Makerere University strengthened as a regional hub of research excellence
- Enhanced international exposure and opportunities for collaboration
- Enhanced research management and communication skills
- Improved quality of research and publication culture.
- Coordinated the development, accreditation and delivery of PhD Cross-cutting Courses
- DRGT has coordinated a number of research collaborations namely, Sida, Carnegie (NGAA and NERLP), CARTA, CAPREx, DAAD, ARISE, Prepare PhD, DRUSSA
- Coordinated the establishment of Centres of Excellence including, Makerere University Centre for Health and Population Research (MUCHAP) and others
- Trained University staff in research grants management, grant proposal writing, and reporting
- Developed the Makerere Research and Innovations Communication Strategy (RICS)
- Developed the DRGT website
- Organised a series of international dissemination conferences to show case Mak research outputs
- Established the Makerere University Press (MUP), and engaged an Interim Managing Editor and an Editorial Board

Through a number of strategies under Learning and Teaching, the university committed to Enhancing access opportunities and improve relevance and the quality of Learning and Teaching. The university has reached major milestones towards the various targets in Learning and Teaching. Key achievements include:

1. The review of academic programs for elimination of duplications and harmonization;
2. Supporting experiential learning through the internship program;
3. Operationalizing the quality assurance framework;
4. Improving the quality of academic staff with close to 70% of staff having PhDs (the ideal level by the NCHE standards);
5. Improving the Staff to student ratio from 1:32 to 1:25 in the planning period;
6. Improving the Learning and Teaching infrastructure including library facilities and faster access to the internet;
7. Creating world class Centers of Excellence;
8. Initializing the implementation of Open Distance and E-learning through the ratification of its policy and establishing curriculum to support further human resource capacity building;
9. Establishing and maintaining Jinja campus as part of the objective of decentralizing program delivery;
10. Institutionalizing enrolment planning as well as achieving gender parity in student enrolment.

Some of the strategies that university set out under Learning and Teaching have not yielded all the benefits. Indeed, in some cases, there has been retrogression; for instance, the proportion of international students in enrolment has retrogressed. On the other hand, even though the proportion of graduating PhDs has doubled during the planning period, the proportion of graduate students in enrolment has stagnated to less than 10% against a target of 30%. Other key shortfalls include support to learner-centered pedagogies and extensive integration of e-learning into the learning modes of the university.

It is imperative that the university consolidates the gains achieved under Learning and Teaching, takes lessons from the challenges that have curtailed the full achievement of all the strategies and renews its commitment to providing transformational knowledge, skills and attitudes to its students to prepare them for the 21st Century.

The current context in which the university is operating is within a dramatic reshaping of the world by scientific and technological innovations, regional interdependence and globalization. A new set of constraints and enablers have been brought to the stage from the Social, Economic, Political and Technological environments. The ratification of Uganda's Vision 2040; the UN Sustainable Development Goals, the introduction of the Science and Technology Ministry, the new funding models in the Ministry of Education and Sports, the visitation to Public Universities provide new imperatives for re-orientation of Learning and Teaching objectives and strategies. It is imperative that the university progresses with:

1. Enhancing access with strategic mix in Science and Technology disciplines;
2. Improving relevance across curriculum offerings;
3. Bolstering the research-Learning & Teaching interplay;
4. Refocusing internationalization through more elaborate management structures;
5. Strengthening internship programs;
6. Improving graduate student enrolment;
7. Removing the dichotomy between the evening and day programs;
8. Strengthening the external campuses and satellite centers;
9. Tailoring Soft Skills into curriculum;
10. Strengthening monitoring and evaluation of Learning and Teaching process;
11. Strengthening the offices of the Heads of Department to ensure adequate allocation, efficient and effective utilization of resources to Learning and Teaching.

2.2. Admissions and Registration

Student Enrolment in the Colleges is determined by a number of factors. The key factors include: the number and capacities of academic programmes in the Colleges; popularity of the programmes; job market; parental influence; fees; pass rates; dropout rates; graduation rates; admission requirements; among others.

At Makerere University, programmes in the Humanities including Business and Law, tend to attract more students than the Science and Technology programmes. The College of Humanities and Social Sciences (CHUSS) alone has had more than 20% of the student enrolment in the University for the eight of the ten years of the current strategic plan.

There is a very low turn-up for registration (40.5%) by the first year students. The second and third years rate of registration is equally too low. This pattern is consistent for the past several years; students have carried out belated registrations. Some even register when they are seeking award letters, a way of improving on their file records. The low turn up for registration is a reflection of commitment by students at continuing in their programs.

- Majority of students gain admissions without securing financial support as such many fail to register.
- Extremely low rate of registration as depicted from the tables above
- Continuing students often display significant level of negligence to renew their registration after completing year one studies.
- PhD students assume that once they have obtained Provisional PhD admissions, they are automatically students.
- Belated changes on the fees structure by University Council have had significant impact on the affordability by students.

Enrolment and graduation numbers in postgraduate programmes are some of the key indicators of a university's research productivity. These indicators carry information not only on the capacity of the university to produce its own staff but also on its potential for production of new knowledge.

The computation for the supervision of the Colleges for PhD students is based on the requirement that each supervisor can be assigned up to three PhD students. The College of Health Sciences had the highest potential for enrolment and supervision of PhD students.

The current potential for PhD enrolment stands at about 1000 students considering the number of supervisors available. The University needs more supervisors to realise its target of 2000 PhD students to meet the ratio of a PhD student for every four Masters students; also considering that the University aims at 25% graduate students (as a percentage of a student of enrolment of 40,000 students). A total of 330 supervisors are required to meet the shortage for PhD students. In addition to realise maximum utilization of the available potential, there is need to build capacity in the colleges of COBAMS, COCIS, COEES and the School of Law.

According to the CHET, a university with a strong research orientation should have not more than 6 Masters Students for every Doctoral student. The ratio for Makerere University in the year 2017 was 4 whereas in the year 2007 this ratio was 7 showing a strengthening in this regard. The number of students graduating in the PhD program steadily grew from a bare 12 students in the year 2000 reaching 75 in the year 2018. The proportion of female PhD graduates averaged 22.7% in the period 2015-2018. The most productive colleges (in terms of PhD graduates) were CAES and CONAS.

Table : Summary Admission figures for 2017/2018 - 2018/2019

COLLEGE	Programme	Admitted 2016/2017	Admitted 2017/2018	Admitted 2018/2019
College of Agricultural & Environmental Sciences	PHD*	52	19	24
	MASTERS	272	268	165
	PGD	22	6	13
College of Humanities & Social Sciences	PHD*	23	19	34
	MASTERS	349	304	465
	PGD	20	19	25
College of Education & External Studies	PHD*	39	37	37
	MASTERS	73	106	106
	PGD	39	34	88
College of Business & Management Sciences	PHD*	-	-	12
	MASTERS	476	461	573
	PGD	11	17	8
SCHOOL OF LAW	PHD*	-	1	-
	MASTERS	59	36	77
	PGD	-	-	-
MUBS	PHD*	9	13	12
	MASTERS	496	510	654
	PGD	-	-	-
College of Health Sciences	PHD*	10	19	26
	MASTERS	356	434	508
	PGD	-	-	-
College of Natural Sciences	PHD*	5	13	20
	MASTERS	86	89	105
	PGD	-	-	-
College of Veterinary Medicine Animal	PHD*	11	5	11
	MASTERS	76	90	71

Resources & Bio Security	PGD	2	3	-
College of Engineering Design Art & Technology	PHD*	23	9	45
	MASTERS	168	208	208
	PGD	17	43	7
College of Computing & Information Sciences	PHD*	3	7	26
	MASTERS	117	130	147
	PGD	22	15	11
TOTAL	PHD*	175	142	204
	MASTERS	2,528	2,636	3,182
	PGD	133	137	195

PhD = PhD (Taught and Research)

2.3. Graduation Rates

The graduation rate helps to measure the “productivity” of university programmes. A modest graduation rate points to a mismatch between programme requirements and student expectations, to a certain misuse of public resources and, above all, a misuse of human capital.

When all things are equal, one should expect the graduation rates to be at 100%. This means that all students admitted to a particular program should be able to graduate at the end of their study period. In reality this does not normally happen as many factors tend to come into play and, in most times, slow down the progression rate of some students or even stop the progression altogether. Some of these factors may be financial (say the lack of tuition), academic (failure of some of the courses), health and otherwise social.

On the other hand, extremely high graduation rates do not always mean that the quality of the provision is high. Moderate graduation rates might reflect a rigorous curriculum and a high level of quality control. The graduation rates presented in the figures below are computed as the number of graduates in a given program divided by the number of students admitted in that cohort for the specific program. The average graduation rate is computed over for the data of 3 consecutive cohorts.

Over the past 5 years, the number of students graduating has been increasing slightly and remained proportionate with those that are admitted indicating reasonable throughput on part of the university. The University has registered a remarkable increase in the number of students graduating with PhDs and a slight decrease for Master and Postgraduate Diplomas compared to 2015 and 2016.

COLLEGE	2010	2011	2012	2013	2014	2015	2016	2017	2018
CAES	6	10	15	8	5	12	12	12	10
CEDAT	3	4	4	1	8	4	5	2	4
CEES	3	1	8	10	12	6	6	4	8
CHS	5	10	5	8	3	4	10	13	19
CHUSS	4	3	9	4	5	13	8	9	4
COBAMS	0	1	6	3	10	8	6	2	4
COCIS	1	2	4	4	4	0	2	1	2

CONAS	5	6	5	2	8	3	4	6	10
COVAB	3	2	1	2	5	1	3	14	4
LAW	0	0	0	0	0	0	0	0	1
MUBS	0	0	0	0	0	0	0	1	11
TOTAL	30	39	57	42	60	51	56	64	77

While the average graduate student numbers remained below average at 6%, there was an increase in the number of PhD students and graduates. The number of registered PhDs had reached 500 by 2018/19, and the University had advanced towards an annual graduation of 70 PhDs. The PhD graduates at the University increased from 30 in 2015/16 to 75 by 2017/18 which is less than the target number of 120 PhDs per year.

Table 1: PhD enrolment by field of study at Makerere University (2018/99-2029/30)

	2015/16	2016/17	2015/16	2016/17	2017/18	2018/19
PhD Enrolments	420	471	563	533	554	546
PhD Graduates	30	38	55	60	70	75

The Plan envisaged a situation where there is a deliberate effort to channel enrolment to the required student mix as well as matching the existing capacities/resource inputs to the student numbers. The performance evaluation for this strategy was based on the Staff/Student Ratio and the students' facility ratio. The average SSR stands at 1:25 compared to the 1:15 of NCHE. This indicator however, needs to be elaborated further. While the target aggregated number of students has been reached, disaggregation by college reveals that only the science based disciplines have been able to attain the NCHE capacity indicators.

2.4. Curriculum and Programs

The university curriculum comprises both Science, Technology, Engineering and Mathematics (STEM) as well as Arts, Humanities, Business and Social Sciences as two broad categories.

As of January 2018, the total number of graduate programs currently offered are 155 Masters, 68 Diplomas and all Schools and institutes had provision for offering Doctoral Degrees either by research only or by course work and dissertation. Over 5000 courses are offered, the details of most of which can be found at www.courses.mak.ac.ug.

As for the Masters, CHS (31) and CHUSS (31) had the highest number of programs, while COCIS (4) and LAW (1) had the lowest. The CEES which has only 17 Masters. For the PhDs, CHUSS (21) and CAES (18) had the highest number of programs, while COBAMS (3), CEES (3) and LAW (1) had the lowest. CHS which has 31 Masters has only 4 PhDs. Diplomas are being phased out in most colleges. CAES, CEES, CONAS and LAW have no Diploma programs, but COVABS has 12 of them.

The overall distribution of programs is: Masters 34.75%, PhD 20.18%, PGD 7.62%, Diploma 7.62%, Certificates 0.67%. The university curriculum comprises both Science, Technology, Engineering and Mathematics (STEM) as well as Arts, Humanities, Business and Social Sciences as two broad categories. 52.76% of the programs are offered in STEM, and 47.24% in BAH.

The curriculum is in ten broad areas with students distributed as indicated below in parenthesis: Social and Behavioral Sciences (30%), Business (16%), Physical Sciences and Mathematics (12%), Education (12%), Arts and Humanities (7%), Engineering (6%), Medicine and Health Sciences (6%), Law (4%), Architecture (1%).

2.5. Distribution of Students in disciplines

The population of graduate students in STEM is about 35% compared to 40% which is considered to be favorable for economic take off. Among the disciplines, the total number of enrolled students were as follows: Business, Life Sciences , Physical Sciences and Mathematics , Engineering, Social and Behavioral Sciences, Architecture, Arts and Humanities, Education, Medicine and Health Sciences, and Law.

From the above data, it is evident that Social and Behavioral Sciences had a disproportionately a high number of enrolled students compared to the rest of the disciplines.

There were also some gender disparities in the distribution of students among the disciplines. For example, only 25% of students in Architecture were female, 30% in Physical Sciences and Mathematics were female, and 20% in Engineering were female. But in Social and Behavioral Sciences 60% of the students were female.

Each of the major ten disciplines depict gender gaps at post graduate student level. The gaps are widest in Architecture (0% female) and Engineering (16% female); these gender gaps are definitely accentuated by the relative earlier gaps in the undergraduate disciplines in Engineering.

Table: Makerere University Curriculum as of January 2018

College/unit	Masters	PGD	PhD
College of Agricultural and Environmental Sciences	14	4	18
College of Engineering, Design, Art and Technology	12	2	8
College of Health Sciences	31	4	4
College of Humanities and Social Sciences	31	9	21
College and Business and management Sciences	13	3	3
College of Computing and Information Sciences	5	6	8
College of Education and External Studies	17	2	3
College of Natural Sciences	10	2	10
College of Veterinary Medicine and Bio-security	9	2	14
School of LAW	1		1
Makerere University Business School	12		
	155	34	90

The university has opted to provide service where it has more comparative advantage as well as foster its research-led mission. In so doing, the university will accelerate the provision of key human resource capacity for the Higher Education sector as well research institutions in the country.

2.6. Staff Gender and Qualifications

Overall, about 74% of staff are male, and only about 26% are female. However, this is an improvement over the past years where the percentage of female staff was 23% and below. All colleges had a disproportionate number of male compared to female staff. Despite having few members of staff, LAW is the closest to attaining Gender Balance amongst teaching staff, closely followed by CoCIS. CHS reported the widest gender gap closely followed by CAES and CoNAS, a fact that could be attributed to the traditionally poor gender balance in the science disciplines.

The PhD count among the colleges was as follows: CAES 118, CEDAT 52, CEES 42, CHS 98, CHUSS 132, COBAMS 43, COCIS 32, CONAS 80, COVAB 47, JINJA 1, LAW 14. CHUSS had the highest number of PhDs (132) while CHS had the highest number of Masters (181) among the academic staff.

2.7. Financing Graduate Training

From 2007 – 2018, the Government average expenditure on public universities as a percentage of GDP has been a mere 0.35% which is lower than that of Kenya and Tanzania (Av. 1.0% and 0.9% respectively). Further, the postgraduate trainings activities are not funded.

Although under the UoTI act, section 41c empowers the University Council to “fix scales of fees”, Makerere Council’s attempts to increase fees in 2004/5 were halted by the Government. This action was repeated in 2014 when Makerere tried to increase fees by 10% to meet increasing costs.

Given the perennial late payments of tuition fees by students, the University is faced with challenges of payments for: Utilities, Salary arrears, Services Provided and Supplied, Outsourced Services (Cleaning, Garbage Collection), Procurements and Supplies (Laboratory consumables), delayed benefits to Retired staff, and delayed disbursements to Units.

The principal challenges facing Graduate training currently are:

- a) Inadequate financial resource to finance graduate training activities
- b) Inadequate and often delayed releases from government
- c) Late payments of fees
- d) Perception of inequitable distribution of available resources

Tuition fees and philanthropic donations are very significant sources of income to support the functioning of the graduate training system. Due to the private sector’s inability to raise all the needed funds, the government has to provide subsidies to create enough revenue for the function of the entire system.

Another policy option is the intensive integration of the university into the entire community. For example, different groups of people should engage in partnership with the University. There should be effective collaboration between the university and industries in the country. This will enable the institutions to be closer to the people in the community; such similar pattern exists at Dar Salam University.

The student loan system should be designed in a way that students who had good grades and at the same time came from a poor family background often received financial assistance from both the municipal and the district assembly, as designed by the government.

Given that the tuition fees are considered to be very low as compared to other regional institutions. Mixed funding sources will help the graduate training to engage in a long term project and offer the best quality of graduate education to the students.

2.8. Research and publication at Makerere University

Makerere University (Mak) has uniquely positioned herself among universities in Uganda to differentiate by advancing basic and applied research in both humanities, science and technology and related innovations. The University continues with her quest to become a research led institution. Initiatives to improve the research thrust and strengthen research capacity include Doctoral Supervision and Mentorship Training as well as software driven anti-plagiarism developments. For the year in review, the volume of research output increased. A review of the research databases Elsevier-Scopus and web of science show a significant improvement in the number of research publications by Makerere University staff. As part of the research support system, Council approved the Research and Innovations Communication Strategy (RICS). The goal of the RICS is to institutionalize a coherent approach to communicate Mak's research and innovation outputs to increase their relevance and uptake by various end-users.

Since its inception, Makerere University has evolved into one of the leading Universities in sub-Saharan Africa. In the 1950s, 60s and early 70s the University experienced her most productive decades with a vibrancy of teaching in the region, research and engagement with government and the public through public lectures and other fora of academic and political engagement. From the mid 70s to the mid 80s, the volume of research not only decreased but also increasingly became project based and dependent on individual's motivation. A lot of the research that was carried out under such circumstances, even where it was significant, oftentimes did not get registered as a Makerere University product. At the dawn of the 90s, with the introduction of privately sponsored Academic Programs, the university was more focused on the teaching function.

The plight of research at the University was overturned by the advent of Institution-wide Research Capacity building funding from Development Partners in the 90s. These programs were instituted with innovative mechanisms like sandwich arrangements intended to avert the so-called *brain-drain* syndrome; long-term in design to allow for completion of high-level training especially at PhD; flexible enough to allow the university to develop competences in its areas of research priority; enabling collaborative networks among researchers and supervisors in different institutions. These research efforts enabled the University to not only develop a critical mass of researchers but also to re-align the research environment.

The number of publications indexed by Scopus grew from 620 to 834 between year 2012 and year 2015, and is currently estimated to be about 1000 publications per year. It should be noted however that a good proportion of publications are not indexed by citation indices. Of the publications between 2012 – 2017, by far most of them were in the discipline of medicine (47%), followed by Agricultural and Biological Sciences (13%), Biochemistry, Genetics and Molecular Biology (8.9%), Social Sciences (8.8%) and Immunology and Microbiology (8.5%). Thus, for Makerere University, sciences had the largest share of publications. By contrast, it was noted that in South Africa universities most publications are in the Law discipline.

Table : Makerere Research 2010 -2018

	SUBJECT AREA	No. Publications	Percentage
1	Medicine	3441	39.5%
2	Agricultural and Biological Sciences	1039	11.9%
3	Immunology and Microbiology	702	8.1%
4	Social Sciences	686	7.9%
5	Biochemistry, Genetics and Molecular Biology	624	7.2%
6	Environmental Science	405	4.7%
7	Computer Science	206	2.4%
8	Pharmacology, Toxicology and Pharmaceutics	168	1.9%
9	Engineering	155	1.8%
10	Psychology	147	1.7%
11	Veterinary	138	1.6%
12	Nursing	128	1.5%
13	Business, Management and Accounting	109	1.3%
14	Earth and Planetary Sciences	109	1.3%
15	Mathematics	98	1.1%
16	Arts and Humanities	95	1.1%
17	Economics, Econometrics and Finance	88	1.0%
18	Energy	61	0.7%
19	Chemistry	50	0.6%
20	Multidisciplinary	45	0.5%
21	Physics and Astronomy	39	0.4%
22	Neuroscience	36	0.4%
23	Health Professions	34	0.4%
24	Materials Science	34	0.4%
25	Chemical Engineering	26	0.3%
26	Dentistry	22	0.3%
27	Decision Sciences	16	0.2%
	TOTAL PUBLICATIONS	8701	

Source: Makerere University Self Assessment Report 2017

Summary of Research Funding per College for 2017/2018

COLLEGE	USD	EUROS	POUNDS	NOK	Canadian Dollars	SEK	UGX
College of Agricultural and Environmental Sciences (CAES)	3,101, 906	1,893,198					2,759,791,333
College of Business and Management Sciences (CoBAMS)	482,343.88						
College of Computing and Information Sciences (CoCIS)	5,523,500	660,184		390,000	102,000	29,653,144	
College of Education and External Studies (CEES)	3,459,915.55	2,170,675					12,744,642,516
College of Engineering, Design, Art and Technology (CEDAT)	109,373,344.68	1,020,700	454,040	2,208,743			25,000,000,000

College of Health Sciences (CHS)	383,620,763		6,609,336	6,669,000	200,000		
College of Humanities and Social Sciences (CHUSS)							70,605,891
College of Natural Sciences (CoNAS)	4,461,247						90,600,000
College of Veterinary Medicine, Animal Resource and Bio-Security (CoVAB)							3,399,000,123
School of Law	1,129,484						

3. CONTEXTUAL ANALYSIS

3.1. The National Development Context

Eradication of poverty is a key objective of the Government of Sweden support to research capacity strengthening in Uganda. Since 1997, Uganda had pursued poverty eradication through implementation of the 'Poverty Eradication Action Plan (PEAP), a national policy development framework that was subsequently supported by a medium-term planning tool, which expired in June 2008. The successor guiding policy framework, the National Development Plan (NDP) focuses on the theme '*growth, employment and prosperity for all*'. The plan recognises the importance of increasing income to poor households, which is a key driver for eradicating income poverty.

Uganda has yet to develop a critical mass of well-trained human resource able to generate and translate knowledge for societal benefit. This capacity is crucial in order to competitively articulate, negotiate, plan, implement and evaluate the country's development strategies geared to poverty alleviation. The University is aware that poverty is still the biggest constraint to national development (Makerere Research and Innovations Policy, 2008). Over 24.5% of Ugandans still live in absolute poverty, despite the numerous programs in place to address the problem (GoU, 2012). The University has, therefore, positioned itself to address emerging challenges through its core competences in training, research and innovation, and as such the need higher educational support. Phase IV of Sida support will adopt more innovative approaches to poverty reduction by focusing more keenly on the linkages between research (as provided in the University research agenda) and the national development frameworks such as the Prosperity for All, National Development Plan (2010), and the Vision 2040. Makerere University is committed to continue contributing to poverty reduction in Uganda through human resource training and applied research (Makerere Strategic Plan 2008/9-18/19).

Makerere University has made commendable gains with previous funding streams to develop structures, infrastructure and highly trained human capacity towards realising a community of scholars. Therefore, the University will deploy the Sida IV funding to consolidate those gains and to break new ground. In order to address problems holistically, researchers and graduate students will work more closely through multi-disciplinary research teams constituted around particular development issues/themes. Teams will comprise not only Makerere staff, but also participants from partner universities, local and international institutions.

3.2. Framework for Research and Higher Education in Uganda

The research system in Uganda includes institutions mandated to: formulate policies, coordinate research, regulate, and /or implement policies as well as those that carry out research and training. These include: Uganda National Council for Science and Technology (UNSCT), National Agriculture Research Organization (NARO), Uganda National Health Research Organization (UNHRO), Universities,

Uganda Industrial Research Institute (UIRI). They are also mandated to plan and manage research activities as well as the dissemination of research results.

The AU/NEPAD recognizes the importance of research in national development and is committed to strengthening and enhancing research training and development of higher education. Funding for research, however, is still low in Uganda currently standing at 0.4 percent of GDP up from 0.25% in 2002/3. This level of research funding is still far below 1% as agreed by African Governments. The most appropriate mode of delivering support for research and building research capacity would be through competitive grants funding schemes e.g. the Millennium Science Initiative (Background study, 2008). Makerere University has made progress in putting together a peer review group based on the model of International Foundation for Science (IFS), with funding from NORAD and Carnegie corporation of New York, and is now in a better position to handle competitive grants.

Higher education sub sector in Uganda has been de-regulated leading to an increase in the number of private sector providers. By 2007, the number of universities was 27 of which 5 are public universities. Enrolment in tertiary institutions has been on the increase with a modest enrolment in science and technology¹. There has been a moderate increment of academic staff in tertiary institutions and by 2006 the total number of academic staff in higher education institutions was 6,465 of which 771 were PhD holders (11.5 percent)².

At Makerere University, out of 1301 academic staff, 50 percent (700) have PhDs while 40 percent (550) have Masters Degrees. This indicates a large pool of academic staff that still needs training at Ph.D and Masters levels. This demand for training is higher in other public universities, a justification for capacity building of human resource for upcoming public and private universities.

Beyond the quantity of skilled employees needed on the labour market, the absorptive capacity of Uganda's labour market has been inelastic resulting into high graduate unemployment. Uganda's unemployment rate was 4.2 percent in 2009/10 amidst a rapidly expanding tertiary education sector. Moreover, the status of doctorate holders and the patterns of their employment have remained unknown because of the absence of empirical studies undertaken on this highly trained group.

3.2. Makerere institutional profile and strategic direction

Makerere University was established in 1922 as a technical college. In 1949, it became a University College affiliated to the University College of London, offering courses leading to general degrees of the University of London. This affiliation lasted until 1963 when it became one of the three constituent colleges of the University of East Africa. Makerere became an independent University in 1970 by Act of Parliament.

Makerere University has a student population of 35,000 undergraduates and 5,500 (7%) postgraduates (both Ugandan and international). The University is an active centre for research, and transitioned from the faculty-based to the collegiate system in December 2010. The vision is to *be the leading institution for academic excellence and innovations in Africa* and its mission is to *provide innovative teaching, learning, research and services responsive to National and Global needs*.

Makerere University Strategy 2008/09-2018/19 was formulated to reposition her to address emerging development challenges arising from globalisation, evolving national socio-economic developments, information and communication technology, the Millennium Development Goals (MDGs) and overarching national government policies such as Poverty Eradication Action Plan (PEAP), the draft

¹ Tertiary enrollment between 2005 to 2006 grew by 9.4% i.e. from 124,313 to 137,190 in 2006 with science and technology recording in creasing by 5% from 28,852 in 2005 to 37,739 in 2006;

² The State of Higher Education Report, 2007

National Development Plan (NDP), Strategic Plan for Higher Education 2004-2015, decentralization and affirmative action.

Overall Makerere's strategic thinking in terms of research is underpinned by the Sustainable Development Goals (SDG), Africa Agenda 2063, Vision 2020, and Uganda's policies on societal well-being with a presumption that these will be driven by knowledge based citizenry. Like the rest of Africa, the Government of Uganda believes that the successful implementation of National Development Policies is dependent on the higher education sector playing its role of human capital development and providing research and innovation to support the realization of knowledge transfer process. This is clearly stated in various policy documents and their strategic plans, *inter alia*, the Uganda Vision 2020 (GoU, 2000), the Uganda National Policy on Science, Research and Innovation (GoU, 2008), the Higher Education Policy (GoU, 2008), the Education Sector Strategic Plan 2008-2012 (Ministry of Education, 2008), and the Education Sector Strategic Plan 2010-2015.

High quality human capital development is largely the preserve of university education, with graduates in general supporting governance and development processes. Sufficient and competent/skilled human capacity to coordinate, train and manage graduate training and conduct university wide research while ensuring quality remains a challenge to the University. Therefore, it is important to build an effective and efficient graduate training process in the university with the DRGT playing an over-arching guidance, co-ordination and support role to University units. In some academic units, the attrition rates of academic staff are high and the capacity of the university to attract and retain highly skilled human resource is low. This has affected the capacity to supervise, train and do research.

In order to focus research efforts, the University identified priority thematic areas for investment in the next ten years following recommendations arising out of various consultations and based on University strategic plan, Research and Innovations Policy, National Science, Innovations and Technology Policy, findings of the Background study on Science and Technology, National Plan of Action. The research themes are premised on the need to enhance Uganda's HEIs' capacity to contribute to national development, to Uganda's meeting the regional and international commitments including the Millennium Development Goals, to enhance local, regional and international collaboration and networking and to improve the capacity of young researchers through a mentoring process.

3.3. Makerere's Contribution to National Development Plan II

The National Development Plan (NDP) stipulates the Country's medium term strategic direction, development priorities and implementation strategies. The thrust of the NDPII is to propel the country to middle income status in the next five years through prioritizing investment in five key growth drivers with the greatest multiplier effect as identified in the Uganda Vision 2040. In line with the country's Vision, the **theme** for the NDPII is *"Strengthening Uganda's Competitiveness for Sustainable Wealth Creation, inclusive Growth and Employment."*

The goal of this Plan is to propel the country into *middle income status by 2020*.

In order to realize the above goal, four objectives will be pursued and these are;

Increase sustainable production, productivity and value addition in key growth opportunities.

Increase the stock and quality of strategic infrastructure to accelerate the country's competitiveness.

Enhance human capital development; and

Strengthen mechanisms for quality, effective and efficient service delivery

The plan has prioritized five key growth drivers with the greatest multiplier effect as identified in the Uganda Vision 2040 namely: **Agriculture; Tourism; Minerals, Oil and Gas; Infrastructure; and Human Capital Development**. To maximize its contribution to the attainment of these five areas, Mak has strategically repositioned herself as a research-intensive, public University and is currently reviewing its policies, processes, regulations, investment strategic to suit the following characteristics of a research-led university:

University's mission/ vision towards research and Knowledge Production

- i. High proportion of postgraduate research programmes
- ii. High Doctoral enrolment and graduation
- iii. Staff qualifications (% staff with PhD) and Seniority (% of professors).
- iv. Presence of pure **and** applied research
- v. Graduate education integrated with research
- vi. Faculty engaged in research and scholarship
- vii. University research budget forms (60%) of institutional budget)
- viii. No. Publication in international referred journals (JCR) and No. Of Citations
- ix. No. Patent applications, no. Spin-off companies and no. Incubators
- x. No. Science and technology parks
- xi. Knowledge production incentive regime.
- xii. Faculty participation in scientific networks and professional bodies
- xiii. No. Graduate students participating in R&D activities
- xiv. High levels of external research income
- xv. More funding to attract the best staff and students and support research infrastructure
- xvi. Adequate and sustained research budgets from intellectual proprietes
- xvii. An international perspective – strong drive for Internationalization
- xviii. High levels of research outputs (Publications and innovations)
- xix. FTE Staff-Student ratios.
- xx. No. Competitive International research grants won by Faculty and Students

3.4. Institutional Capacity Analysis (SWOT)

The Directorate has analyzed its strengths, weaknesses, opportunities and threats as part of its strategic planning. These are closely related to the overall SWOT for Makerere University. The outstanding strengths included highly qualified academic staff, outstanding good reputation, established infrastructure and a diversified postgraduate research program. The major weaknesses related to curricula and training methods, research infrastructure, human resource management and funding. Of the opportunities, rising demand for university

education, increasing Government and Donor support to the University. The following reflect the perspectives largely, but not exclusively, of those working within the Colleges/units as important stakeholders in the study:

STRENGTH	OPPORTUNITIES
<p>Makerere University continues to enjoy the limelight as a premier university in the region, and has continued to attract prospective students</p> <p>Existing collaborations with the world's largest Universities in Europe and USA</p> <p>Internal coordination for graduate training and research between the Colleges/units is good.</p> <p>A critical mass of competent researchers from various disciplines</p> <p>The university has developed a number of policies that impact research and graduate training, such as the Research Policy, the Intellectual Property Management Policy (developed by the DRGT,</p> <p>There is relative availability of highly trained academic and support staff in comparison to other universities in the region.</p> <p>The large number of relevant graduate programmes has attracted a high demand for graduate training at Makerere from graduates of the mushrooming universities in the region.</p> <p>The University and her development partners have invested substantially in ICT and library resources.</p> <p>Many of the policies and principles for national development (e.g. decentralisation) have been institutionalised</p> <p>There is a good track record of academic performance and productive research.</p>	<p>Uganda government is transforming into a middle income country based on knowledge economy</p> <p>High national, regional and global demand for graduate training</p> <p>Potential to attract significant sustained investments to support the establishment of multi-partner, academia/industry collaborative research centres led by Mak</p> <p>Mak continues to enjoy the limelight as a premier university in the region, and has continued to attract significant support from development partners towards graduate training and research.</p> <p>New infant private Universities that require higher level training and professional development</p> <p>With the repositioning as a research led university in the region, MaK is increasingly becoming a preferred destination for many people wishing to undertake graduate studies around the region and beyond.</p> <p>MaK has a vast amount of research outputs that could be shared with other stakeholders nationally and internationally.</p> <p>Existing networks and partnerships for research collaborations</p> <p>Virtual learning and libraries without walls which allow the use of e-Learning and information sharing has revolutionized research.</p> <p>Modern technologies and business methods can help reduce overheads, releasing funds for field programmes and development.</p>

<p>Good societal will towards transformation of the higher Education, research and Innovation.</p>	<p>Regionalization and globalization: These trends imply that the world is a global village where research findings, training and all activities are expected to fit within the expectations of the one World concept.</p> <p>An innovative programme for building national capacity in addressing the problems of poor households using attachments and internships would allow graduates to gain field experience and would extend the reach of current research and training without long term cost implications.</p>
<p>WEAKNESSES</p>	<p>THREATS</p>
<p>Low completion rates of graduate students</p> <p>High dropout rates graduate students.</p> <p>Inadequate capacity to train, supervise and coordinate graduate training and research is over-stretched due to less than optimum establishment.</p> <p>Fragmented interface of institutions with industry: Industry contributions remain below average. Industry supports selective areas to fill gaps.</p> <p>The link between the university and policy is weak and hence reduced uptake of research outputs and innovations.</p> <p>Lack of coordination and collaboration within and between the Colleges/ units hence causing duplication</p> <p>Limited access to journals, and published information: Access to databases that students can utilise in their findings may also be a hindering factor for growth in research</p> <p>Some of the infrastructure is depreciated and this is compromising the ability to undertake quality teaching and research</p>	<p>Decreasing financial resources</p> <p>Staff attrition</p> <p>Low Research uptake where the research findings are not being used by the intended users.</p> <p>Hostility and destructive competition amongst the existing units and the emergence of new competitors in the provision of University education services.</p> <p>Attitude of looking to government to provide everything; i.e. low levels of community participation.</p>

<p>Morale is somewhat low although loyalty to the institution and the country is high.</p>	
<p>Remuneration packages are not attractive and, in some areas it has proved almost impossible to attract or retain staff.</p>	

Quality assurance in the educational and research environment as dictated by the NCHE and the Universities and Other Tertiary Institutions Act (2003) demands that basic standards be maintained (i.e. office space, lecture rooms, teaching aids, electronic conferencing facilities, personalized carrels, laboratories etc). The large student numbers applying to graduate programs given the rather limited infrastructure at Makerere poses a challenge even to the DRGT. The inadequate space results in a poor working environment with crowding of graduate students and researchers, in addition to lack of storage space for documents related to graduate training and research in the current space occupied by the DRGT. Worse still the support system for graduate training and research is constrained because of inadequate office space and learning facilities. ICT-based learning and education system and access to library resources and information to students and staff are still limited as a result of band width constraints.

As Makerere transforms into a research-led university, the DRGT has witnessed over the last ten years an increasing number of applications from staff for support towards research (for academic degrees and postdoctoral research), the dissemination of research outputs such as travel to conferences, support towards hosting of conferences and workshops and hosting of research journals and bulletins. The available funds are quite inadequate to support these activities, resulting in frustration of the applicants. Motivation in terms of financial incentives to encourage and entrench the research culture at Makerere has also been lacking.

3.4.1. Emerging issues

Perspectives from those outside the university system are better categorised in terms of common themes:

The urgency of poverty reduction: While there have been useful outputs from the university, the relevance of its research and ability of its graduates to respond to contemporary issues is a question of debate. The university now needs to see itself as a *development* agency also.

Current Research Culture

The past decade has seen a significant change in research engagement and productivity. Since 2000, there has been a concerted effort to not only increase the quantity but also the quality of research activities. Over this period, DRGT has gained a reputation for exceptional engagement of graduate students in research. These students are given opportunities and experiences that rival postgraduate experiences at many institutions. The DRGT is committed to building a vibrant research culture, based

on the principles of academic freedom, accountability, and ethics, that is held to the highest standards of integrity.

The University research agenda areas of focus include: Health and Health Systems; Agricultural (crop & Livestock) transformation, Food Security and Livelihoods; Natural Resources Governance and Climate Change; Education and Education Systems; Governance, Culture, Social Justice and Sustainable development; Science and Technology. The cross-cutting areas include Biotechnology, Knowledge Translation, Gender and Human Resource Development. With the research orientation, academic staffs are required to devote at least 20% of staff time to research (Makerere Research and Innovations Policy, 2008). The focus on research has seen Makerere University's Research Ranking improve from 12th in 2011 (and 1563 in the world) to 9th in Africa in 2012 (and 1552 in the world) according to the Scimago Institutions Ranking (SIR) World Report 2018.

Knowledge creation, mobilization and translation

The Mak Annual Report (2018) highlighted the activities around knowledge creation, mobilization and translation. The faculty is very active with more than 400 academic publications and 14 books published in 2017 – 18. In addition there were in excess of 230 conference presentations. The faculty were also actively engaged in disseminating their research through community events and the media (print, radio and television). There are also much active collaboration internal to MaK, with the local community, industry, nongovernmental organizations and government agencies.

Graduate Student Research Engagement

Currently, Mak offers graduate programmes in its 10 Colleges. These programs have research components and have students and faculty actively engaged in cutting edge research. In addition, many faculty hold adjunct appointments with various universities around the world. These appointments give faculty the capacity to supervise graduate students even in disciplines that do not have graduate degrees. Despite a limited array of graduate programming, in 2017-18 there were more than 4000 graduate students actively carrying out research in many disciplines across the Mak.

Support for research engagement in foundational research

Even though Mak has identified areas of focus for research strengths, it still funds all disciplines in order to develop a world class research culture and scholarly engagement. It is this broad engagement of researchers in many disciplines that is a core value of its success and strong research culture. Academic freedom to pursue what and how research is conducted, is a fundamental principle to building a strong research culture. While a strategic plan will naturally focus time and resources on the priorities identified within the plan, it is important not to neglect the broader research community.

Innovation and Commercialization

Increasingly, the dissemination of research is being recognized as a valuable part of research activities. This dissemination includes the traditional academic publications and conference presentations, but it also includes innovations and partnerships that impact economic activities and commercialization of research outputs. Industrial and commercial activities occur in many disciplines. All too often a very

narrow view of these terms is taken to mean selling out to corporate interests. This plan deliberately takes a broad definition of industry engagement and commercialization and includes community engagement through cultural and creative arts activities and does not restrict it to the scientific, engineering and manufacturing industries. In addition, while there are opportunities to conduct specialized research through research contracts with the private sector, it is extremely important to provide supports to help develop the research and scholarly activity that have potential to have a local economic impact.

Partnering with Industry and Private Sector

There are rich opportunities for faculty to be involved with research through industry and private sector engagement. There are opportunities in the sciences, engineering, cultural sectors and hospitality and tourism sectors. DRGT will encourage and support faculty engagement with industry and private sector through the College Grants Office. Currently, Mak has a small number of faculty that have commercialized their research while a larger number are actively engaged in research connected to the private sector. These opportunities are quickly expanding and will play an important role in the research initiatives over the coming years.

Commercialization and research

When opportunities arise, DRGT will support the commercialization of faculty research through the Technology and Innovations Support Centres (TISCs). Consistent with the collective agreements, faculty choosing to work with the TISCs will be required to negotiate an agreement on the assignment of the intellectual property. The DRGT will work with the faculty member to determine how best to pursue various commercial avenues such as licensing, start-up companies, spin-off companies, access to funding, etc.

The need for improved stakeholder involvement in university training and research: The implementation of teaching and research, with inadequate feedback to the stakeholders involved or likely to be affected by the products could be markedly improved – with consequent gains in relevance, flexibility and effectiveness. There are evident needs and opportunities for the Colleges/units to expand, improve, and institutionalise multidisciplinary approach as an integral part of their training and research methodology. This is particularly important as the College/Units move towards a greater involvement with outreach issues.

The need for a strong science foundation: Student-led learning and other stakeholder participation and the use of local knowledge are catalysts, not substitutes, for focused core science.

Improve coherence across programmes: Effective progress on addressing the serious poverty issues faced in Uganda areas requires a more focused and coherent effort across institutions than exists at present. There is a general consensus that a more coordinated approach to graduate training and research is desirable. A broader and deeper impact is believed to be possible through a focused effort and greater integration across the Colleges/units.

Improve efficiency and priority setting: Operational efficiency needs to be high and the system must show a continuing and effective response to new problems and opportunities as they arise. This requires a defensible and transparent priority setting process through which the concerns of stakeholders are seen to be explicitly addressed. A common priority setting exercise especially for research, with credible external moderation, could easily attract and release more resources for actually doing technology development as opposed to arguing about what should be done.

Facilitate innovation: Business as usual is not an option and innovation is a central function of any modern research system. New players, who can contribute to improving the effectiveness of the Colleges/units and their constituents, should be facilitated. Too often these are seen as threats or competitors to the detriment of progress.

3.5 Basic for the next Strategic Plan and Planning Process

Institutional Consolidation including transformation from the current partially implemented Collegiate system from a highly centralized to a largely decentralised Graduate education and research management systems entrenched in the actual operational needs of the colleges;

Institute a more transparent and accountable system with no duplication of graduate academic programmes aligned to the needs of the learners, a strong M&E system and research supervision;

More effective student progress tracking system of performance of well-motivated Faculty;

A reviewed Research Agenda that provides opportunities for exploitation of talent among students and staff to engage with the relevant stakeholders as part of their research interests, with a focus on impacting and identifying future research requirements.

Enhanced engagement with industry, private sector and business, and other end-users of research and promote knowledge transfer and commercialization nationally, regionally and internationally

Improved access and utilisation of Library and ICT Resources.

A gender mainstreamed system in both academic and support function areas.

In the effort for the University to reposition herself in the ever changing environment constituents units, Colleges were requested to develop successor plans and fit them into the overall Mak strategic plan framework, 2020 - 2030. The units then through contributions to the service units make input to the Service unit strategic plan. It is this vein, that Principals/Directors, after developing their own strategic plans, came together to recast and develop a roll over strategic plan of the Directorate as a service unit for graduate training, research and publication.

Because the existing Strategic Plan 2015/2019 has been in implementation for only five years, some of the plans have not been tackled and are still relevant while some others have been overtaken by events. The purpose of this strategic planning process was to develop roll-over plan, to provide the Directorate with a competitive edge in terms of efficiency, relevance and effectiveness in graduate level training, research, outreach and publication in view of the new strategic direction of the university.

The strategic planning process has involved three stages:

Holding of a design process consultative workshop, where Participants at the workshop identified key economic trends in the country and region, major challenges facing graduate training and research and existing competence gaps. Upon these, they developed strategic goals, vision and mission to guide the Graduate Training over the next five years. The roles for various actors in graduate training, research, outreach and publication in the university were also stipulated.

Crafting of the draft strategic plan, circulation to University units and receipt of inputs for improvement of the document

Writing of the new strategic plan

Developed in consultation with the University community, the Strategic Plan 2021-2030 will guide the University through its next ten years. The University's vision for its continued maturation, growth and development and its commitment to the region is explicit in the new Strategic Plan.

During a stakeholder consultative workshop, new trends, issues and challenges which Makerere was facing within the development arena were re-examined. The Stakeholders mainly comprised of Principals, Deans, Heads of Departments and Director of research institutes. Key areas and functions to be addressed at Units, DRGT and Central Administrative levels were discussed and ideas for streamlining and harmonization were suggested. The suggestions then formed the basis for the new successor plan with the focus on the organization's future mission in light of changing external factors such as regulation, competition, technology, and relevancy to the immediate society; and development of a competitive strategy to achieve the mission; proposition of an organisational structure which will efficiently deploy resources to successfully carry out its competitive strategy.

This rigorous process ensured that Makerere University can acquire a competitive edge in terms of efficiency, relevance and effectiveness in graduate level training, research, outreach and publication in the country and region through full participation of stakeholders at all levels.

4.0 STRATEGY OF THE DIRECTORATE

Vision, Mission & Core Values

1.2.1. Vision

To be an outstanding graduate institution, with a growing portfolio of graduate programs, engaged in research and scholarly activity that has an impact locally as well as globally.

As such, DRGT is committed to:

Supporting graduate education success through research opportunities;

Supporting graduate student research through appropriate graduate level programs as well as partnerships with other universities;

World-class research that is of importance nationally, regionally, and internationally;

Knowledge mobilization and transfer through all modes of dissemination including publication, conference presentation, community and industry engagement, and commercialization;

Recruiting and retaining faculty who are committed to graduate teaching and who will undertake active research programs;

Promote connections and opportunities between high quality teaching and research.

1.2.2. Mission

The mission of the Directorate is threefold:

- 1) **EDUCATION:** to enhance and advance outstanding experiences through excellence in graduate education;
- 2) **INNOVATION:** to encourage and support excellence and innovation in research, creative and scholarly work;
- 3) **LEADERSHIP:** to recruit and train the next generation of highly educated leaders from diverse backgrounds to serve and lead in our communities, nation and the world.

In this regard, the Directorate is committed to promoting excellence, integrity, and equity in graduate education, research and Innovations. In addition to our five core functional areas, we address three cross-cutting themes that impact all aspects of our services and programs.

We value the highest standards of learning, discovery, and creative work in an atmosphere of inclusion, collaboration, and community, being guided by the highest standards of ethical conduct.

Since its establishment, the DRGT has been committed to building research capacity and had been commitment to adding value, supporting research excellence and making a real impact both locally and globally. The DRGT is at the heart of Mak's mission to transform into a research led university.

b). Mission Statement

The mission of the Directorate is threefold in support of the University, students, faculty, and training programs.

- 1) **EDUCATION:** to enhance and advance outstanding educational experiences for all members of the university and the adjacent community through excellence in graduate education;
- 2) **INNOVATION:** to encourage and support excellence and innovation in research, creative and scholarly work;
- 3) **LEADERSHIP:** to recruit and train the next generation of highly educated leaders from diverse backgrounds to serve and lead in our communities, nation and the world.

The DRGT commits itself to engage with University Units and partners in an inclusive, transparent and trustworthy manner where credits are shared with integrity and accountability and obligations are shared in a reliable way while being fully committed to the impacts and strategic goals. Therefore DRGT will carefully consider the quality of partnerships and weigh the trade-offs in terms of transaction costs versus outcomes and impacts. DRGT believes will undertake these with creativity, innovativeness while promoting, diversity and transparency in what it does.

C. The strategy of the Planning unit

Strategic Focus over the Next Ten Years: 2020/21-2030/31

While the outgoing strategic plan was more focused on processes, it is proposed that the new plan should target quality outputs and outcomes. The strategic focus over the next 10 years will be hinged on four anchors for all activities to drive the core and support functions of the University. The University strategy should take cognisance of: -

- the Institution (character, focus and growth path);
- the Human Resource;
- the Makerere University Graduate; and
- the structures that bring the core functions together

Funding options, resource mobilisation avenues and attributes have been defined to establish the potential sources of revenue for financing the Plan.

STRATEGIC PRIORITIES:

Consistent with the University Strategic Priorities, the Directorate will work with the faculty, Colleges, and Schools to achieve the following University Strategic Priorities:

The DRGT Strategic Plan 2021 - 2030 articulates the Directorate's commitment to building and supporting, across all disciplines, a culture of research excellence and impact while enhancing Mak's reputation. DRGT has identified five broad areas to achieve this focusing on the areas of research excellence, investing in people through the graduate student experience, research and innovation capacity building for impact, research partnerships and collaborations and extending beyond the borders to regional and global partnerships. In line with the Makerere University Strategic Framework, the DRGT strategy for 2020/2030 shall focus on the following five priority domains include:

Research Excellence

Research-led education is at the core of the Makerere University Strategic Plan. The University seeks to maintain, a vibrant research culture among students and staff. The DRGT strategic Plan will promote the development of high quality research-led education, coordinating and working with Colleges in response to emerging faculty- and University-level research themes and strengths, interdisciplinary opportunities, and strong market demand in areas of research expertise. The DRGT will build on the University's programme of training and support for research activities at all levels through the Collegiate system, maximising the value to be derived from the of research and academic units in the provision of graduate education. The

DRGT Strategy will provide the University with a mechanism for taking a leading role in discussions of graduate training at a regional and national level.

To be research led there is need to review the academic structure, faculty appointment, promotion and tenure system, infusion of faculty talent, introduction of research quality drivers in the budget process, implementation of strategic research directions, and strengthening of the research-innovation nexus.

Dedication to the Graduate Student Experience

Makerere University envisages increasing numbers of graduate students while maintaining the quality of that intake, and quality of the student experience for all graduates. The DRGT is mandated to enhance institutional processes from application, admissions, registration, facilities, the college experience, engagement and feedback. DRT will therefore ensure student centred access and participation in graduate training.

Makerere University's strength lies in being a research-led and collegiate institution with resources from academic departments to colleges and research centres. However, these resources must be utilised and integrated in an effective manner. In essence, these resources must be utilised for a graduate student community whose needs are recognizably and increasingly diverse. As a coordinating unit of research and graduate training, DRGT has the mandate of ensuring quality and relevant graduate education that responds to societal needs. Just as the needs of graduate students differ significantly from those of undergraduates, the needs of graduate research students are distinct, DRGT will endeavor to maintain inclusive policies that account for the peculiar needs of graduate students

World class research skills and competencies

Makerere University seeks to produce highly researchers that can ably secure the employment which they want, whether that be in higher education, or elsewhere in the private or public sectors, in Nation or beyond. Through the comprehensive Doctoral Training Programme, Makerere University delivers a level of employability and skills training for graduate research students which has rightly been recognised for excellence at a national level. The DRGT will ensure that the quality of this training is maintained. The quality of training and mentorship, and the employability of our completing students, must be recognised at a national and international level.

Promote knowledge transfer partnerships and networking

As a knowledge hub, Mak is mandated share knowledge with the all sectors for the benefit of society as opposed to simply teach and retain the knowledge they generate through research.

The University recognizes that KTCP will be the mechanism through which knowledge and skills for the stimulation of innovation will be enhanced through collaborative projects between the private, public and business sectors and the University. The DRGT is mandated to coordinate the development and implementation of KTCP across the University.

5. Internationalization

Makerere University's enrolment of international students is very low, being only 3% of the total student population. Most of the international students come from Kenya, and some

come from Tanzania. But very few come from other neighboring countries or from further abroad.

By contrast, the world's top universities have a much larger proportion of international students. For example, Oxford has 34% as foreign students, MIT 33%, EHT Zürich 37%, Imperial College 51%. Whereas internationalization has been one of the pillars of the university according to the current strategic plan, it has remained unimplemented; indeed, as the figure below illustrates, it was retracted to its 2001 position (from 8% admission of international students in 2008 to 2% in 2015).

A key aspect in internationalization at Makerere University is that it was driven by Kenyan students as the traditional catchment area; even though they have traditionally been referred to as East Africans alongside other students from the East African countries. The admission of Kenyan students peaked in 2008 and had a nose dive to its lowest in a 15-year period.

Priority Goal 1: Student Support

Provide robust support to compete for the best graduate students, help them thrive at MaK, and prepare them for success after MaK.

Overview

The DRGT was established to oversee and provide support for students during their study programmes at MaK. Financial support, co-curricular programming, and student resources and support are key elements that contribute to graduate students' success. The DRGT's efforts in these areas will directly support one of the major goals in the university's academic strategic plan—providing a transformative education experience for all students and ensuring that every student have at their disposal the best that MaK has to offer.

Objective 1.1: Increase financial support

Under its staff Development Scheme, the university provides tuition scholarships for its staff on doctoral programmes. Despite this progress, the DRGT must continue to enhance its financial support in order to keep competing for the best students as peer institutions raise their levels of support. This is also important given the rising cost of living in Kampala. Looking beyond doctoral students, the DRGT should also explore ways to provide some kind of aid to master's students, who, unlike their Ph.D. counterparts, receive little institutional assistance from MaK. As noted in the university's strategic plan, this lack of institutional assistance limits the diversity of the student body and constrains career choices after graduation.

Strategies

Continue to work toward the long-term goal of providing support to the students.

Increase the number of competitive awards for travel, language courses, project supplies, and other resources that enrich the education of both Ph.D. and master's students.

Make students more aware of internal awards that are available.

Increase students' awareness of and competitiveness for external funding opportunities. The DRGT's own resources are not enough to be a panacea for students' financial needs, and students are expected to play a role in their financial support. The DRGT must make students more aware of external funding opportunities and help them improve their chances of successfully applying for these opportunities, such as the grant-writing course that the DRGT has been offering since 2010.

Key Performance Indicators

Percentage of staff on doctoral programmes benefiting from the internal University funding
Number of competitive awards for travel, professional development courses, laboratory supplies, and other enrichment resources

Number of students applying for currently internal fellowships

Number of students applying for and winning internal and external fellowships

Objective 1.2: Continue to improve co-curricular programming

Aside from financial support, the DRGT also must continue to emphasize providing professional and career development to prepare students for their future careers. Changes in the global job market have made a graduate credential increasingly necessary for a growing number of professions. MaK has responded to these changes by offering an increasing number of master's programs over the past ten years, recognizing that many of our master's graduates seek the credential as an entry point to a career. Other master's students seek the degree as preparation for doctoral programs, even as the job market is changing in many disciplines for Ph.D.-qualified professionals. The shrinking number of tenure-track faculty positions in many disciplines, an ongoing trend that has been magnified by the 2008 recession, has meant that our Ph.D. students increasingly pursue broad career options beyond the traditional tenure-track path.

Recognizing these changes, and in response to campus-wide task forces convened in 2007 and 2011 to examine the career and professional development needs of graduate students, TGS in 2013 hired a full-time assistant dean for graduate student professional development, complementing the school's existing investments in programs to support students in teaching development and preparation for faculty positions. Since this time, DRGT has instituted four new offerings to better support students in pursuing broad career options: the Professional Development Series, the Emerging Research Leaders Trainings, Professional Development Grants, and the Professional Development Blog.

As the research graduate student's population has grown over the past decade, DRGT has responded with a greater variety of professional development offerings that are open to and appeal to graduate students, such as the Professional Development Series of one-time events and the Emerging Leaders Trainings in pedagogy and publication. In particular, the Core Competencies series within the Professional Development Series focuses on skills such as communication, leadership, and self-awareness that are transferable to a variety of contexts. DRGT's investment in professional development addresses a key area of emphasis in the university's new academic strategic plan—increasing opportunities for graduate students to apply their education to a growing array of career options. With DRGT's full slate of professional development offerings moving beyond the startup phase, the school recognizes that continued support for professional development requires both more systematic resources—such as a registration and tracking system for students' participation in professional development events—as well as an assessment of co-curricular programmatic offerings to ensure that they are meeting the needs of DRGT's students and to identify future directions for development. DRGT also should explore ways to document student participation in professional development.

Strategies

Implement a professional development registration and tracking system. With the increased number of professional development offerings and student participation, DRGT lacks a systematic way to handle student registration and participation tracking. Such a system could allow DRGT to better assess student interest and participation in professional development topics and identify potential gaps in serving students (e.g., by year, gender, age, by discipline). Develop a list of competencies that graduate students must meet before taking on an instructional role. Work with departments to identify how to meet those competencies so that graduate programming is complementary to the College/departmental effort. Develop student learning outcomes and assessment tools for co-curricular programming. Evaluate the need for a professional development program specifically aimed at master's students.

Explore processes for documenting student participation in professional development. Once DRGT implements a registration and attendance tracking system for other professional development, other documentation options may become available. The launch of MaK online professional development planning tool for PhD students should align with any new documentation efforts for professional development. Expand professional development offerings to cover more core skills. Continue to collaborate with other Colleges/schools/Departments to determine their graduate students' specific professional development needs.

Key Performance Indicators

- i. Implementation of a registration and attendance tracking system for professional development participation
- ii. List of competencies for graduate students related to teaching and teaching-assistant roles
- iii. Development of student learning outcomes and assessment plan
- iv. Assessment of graduate students to better understand professional development needs, preferred sources of professional development offerings, career goals, and time constraints
- v. Benchmarking survey of peer institutions' practices for documenting professional development participation.

Objective 1.3: Provide student services and resources to support their academic success

The growth in the graduate student's population and the changing landscape of employment options for master's- and Ph.D.-qualified professionals have also driven the need for changes to support students' academic success. Students may need support in multiple facets of academic writing, such as overcoming writing roadblocks, forming dissertation support groups, and practicing scholarly integrity.

The DRGT has already begun to address this issue by developing an elective course to help students to develop their grant-writing skills. It will be important to build upon such resources, as DRGT works to be a leader on campus and among its peers in providing the support to enable all graduate students to succeed in their academic goals.

Strategies

Provide anti-plagiarism software and the necessary training for Research Project Supervisors. In 2015, DRGT approval for anti-plagiarism software for all supervisors and students at MaK. This resource is intended to help supervisors and their students identify potential plagiarism problems before a dissertation/thesis is submitted to DRGT. This is not intended to be punitive, but rather as a resource to help Supervisors and students avoid punitive measures that would be necessary if plagiarism is found after submission. The system was rolled out by the Directorate of Quality Assurance in 2016.

Explore and identify feasible mechanisms to support students in all stages of graduate research and writing (e.g., partnership with the School of Languages and Communication, dissertation writing workshops, ultimately a graduate writing center). Currently there are no resources at MaK to help graduate students with dissertation/thesis writing.

Explore opportunities to collaborate with and contribute to support services and resources that serve students such as PhD cross-cutting Training Program.

Partner with campus units that serve graduate students to track usage of their services by graduate students.

Key Performance Indicators

- i. Implementation of anti-plagiarism software and development of training for faculty
- ii. Extension of partnership with the Thompson Writing Studio to provide support for domestic as well as international graduate students in writing projects
- iii. Exploration of additional forms of research and writing support through partnerships with campus units such as the Libraries, ICT,
- iv. TGS collaborations with and contributions to campus services and resources that support graduate students
- v. Data on graduate student usage of campus services and resources.

Objective 1.4: Continue to provide and enhance services and resources that support students' wellbeing.

The DRGT staff's experiences have shown that students' success in meeting their academic goals is often directly affected by the quality of their overall experience at the university. The students' quality of life while at MaK can also affect their success after they graduate and move into careers and leadership roles in academia, industry, and public service. The quality of students' experiences also greatly influences their attitudes and loyalties toward MaK, as well as the university's ability to attract future students of the same high quality.

Therefore, DRGT has been strongly committed to enhancing support for the wellbeing of the whole student—social, emotional, mental, physical—so as to remove barriers to success. The university has a number of services and resources that address student wellbeing, such as Counseling and Guidance Division, Gender mainstreaming Directorate, and the Dean of Student Office. The DRGT's role is primarily one of coordination. DRGT staff work independently with students and, depending on each student's situation and needs, coordinate the appropriate support from university services, off-campus resources, and various academic Departments.

Strategies

- Work with university support services to assess the campus's climate of wellbeing for graduate students and students' awareness and usage of resources that support their wellbeing
- Increase graduate students' awareness and usage of on-campus resources as needed
- Continue to develop partnerships and programming that address student-wellbeing challenges
- Continue to track and analyze student cases that involve some aspect of students' wellbeing.

Key Performance Indicators

- i. Implementation of assessments such as surveys and small focus groups to measure students' wellbeing and their awareness and usage of university resources
- ii. Communication and outreach efforts to increase student awareness and usage of campus resources, guided by results from the assessments
- iii. Number and effectiveness of partnerships and programming developed in collaboration with university administrative units.
- iv. Analyses of tracked student cases and prescribed actions based on those analyses (e.g., identifying a common issue and developing support to address that issue)

Objective 1.5: Coordinate a cohesive graduate career services strategy across the University

In its news academic strategic plan, the university noted that MaK must enhance advising and career services to help students make more informed employment decisions. It also emphasized the need to make sure graduate students benefit from such enhanced services, and DRGT will need to play an active role in helping MaK accomplish these goals.

Strategies

Assess students' career-search needs and how well they are being met by current resources, such as the Guidance and Counseling Center, DRGT, and individual departments.

Ensure that prospective students receive information on the career outcomes of their programs' graduates so that their career expectations are aligned with the training they will receive.

Key Performance Indicators

- Data on student satisfaction with the career advising they receive at MaK.
- Inclusion of career outcomes information in recruitment materials, such as on departmental websites

Strategic Objective 1: To improve DRGT capacity to coordinate and manage graduate training and research

Problems

The human and educational capacity at Makerere is not commensurate with the current intake, demand, expectations of stakeholders and dynamic trends in higher education. Although there is high demand for graduate training, the low completion rates result into congestion in the system and at the DRGT. In addition drop-out rates are relatively high. The

capacity to train, supervise and coordinate graduate training and research is over-stretched due to less than optimum establishment.

Strategies

Operationalize the new governance structure for the Directorate of Research and Graduate Training

Activities

- Identify research themes and foster the development of multi-disciplinary teams that cut across units
- To support the development and promotion of studentships which include formal teaching graduate fellowship roles.
- To develop policies and guideline for Postdoctoral training and mentorship
- Writing a proposal for implementation of the governance structure
- Recruiting staff
- Establish joint PhD programmes with top universities in order to attract top quality graduate students
- Undertaking curriculum review to attain peaks of excellence in research

Develop and build human resource capacity for efficient and effective coordination

Activities

- Recruiting more staff to fill up establishment
- Training staff in various aspects of research management, finance & accounting
- Bench-marking good/best practices through visits to centres of excellence, web search, documentation
- Developing & implementing a staff appraisal system
- Training in entrepreneurship & soft skills
- Setting up an electronic conferencing unit / centre training staff in various aspects of research management, finance and accounting

Develop strong links between DRGT and Colleges and research Units

Activities

Engaging University units in development of results oriented management systems to promote efficiency in transactions

Sensitising university community on existing policies regarding graduate training and research Review Makerere University's engagement with industry especially in designing relevant research agenda order raise the University relevance to societal needs

Develop an ICT based data management and processing system for research and graduate study in the university

Activities

- Training existing personnel in ICT and management
- Creating customised software for tracking research, supervision and graduate training

Motivate staff to undertake research supervision

Activities

- Reviewing staff supervision and examination guidelines and allowances
- Providing small grants to graduate students Improve staff motivation

- Rewarding best performing staff
- Supporting sabbatical for staff

Support training of quality graduate students

Activities

- Facilitating development and delivery of cross-cutting courses for PhD and Masters students
- Supporting review and harmonisation of graduate curricula
- Lobbying staff from the Diaspora to give-back to Makerere by getting involved in the training of graduate students at Makerere
- Supporting visiting professors
- Establishing small grants scheme for students
- Writing a project proposal for possible donor funding to support students (e-learning, scholarly and scientific writing, data management and analytical skills enhancement).

Improve infrastructure for research and graduate training

Activities

Identifying possible sources of funding in collaboration with the resource mobilisation unit
To work with Colleges, School and Departments and the Communications Office to develop guidelines on certification of Research Laboratories.

To review the Makerere University Research Agenda 2013 (this can be an activity)

Building the state of art structure for DRGT by the year 2025

Initiating Private-partner cooperation under the principle of BOT to put up a building for graduate students by 2022.

Strategic Objective 2: *Deliver an outstanding and innovative educational experience.*

Problem

In a competitive market, Makerere University must ensure that it provides appropriate support for international students prior to, during and after admission. There is need for DRGT to work with the International office to ensure that the University is able to market itself effectively internationally and to attract more international students. To internationalize the student experience DRGT will not only spearhead mechanisms for attracting and supporting international students but also ensure that all of Mak graduates are given the opportunity to become international citizens with an understanding of cultures, languages and belief systems other than their own, so they may make a positive contribution to an increasingly multi-cultural and globalized society. To compete on the world stage Mak must ensure that new and existing programmes are internationally relevant, and that we develop the inter-cultural competence, skills and employability of our students. The DRGT Strategic Plan will encourage the broadening of students' international experience by supporting the development of opportunities for students to study languages, to volunteer, to attend conferences, and to undertake exchanges and placements.

Strategies

2.1: Educate graduate students and postdoctoral fellows to meet the national and global needs.

Activities:

- Expand graduate programs involving international universities, including opportunities that would allow graduate students to spend a semester abroad.
- Develop joint programs with international universities that enhance graduate training, such as programs in which course work and/or scholarly and creative pursuits are conducted at both institutions.
- Provide the infrastructure and services necessary for international students to succeed in completing their graduate degree programs.
- Expand professional development opportunities for graduate students and postdoctoral fellows, including career development workshops, internships in industry, and teaching opportunities.

2.2: Encourage and facilitate the development of distinctive and unique academic programs that establish MaK as a leader in graduate education and innovation.

Activities:

- 1: Expand the offering of certificate programs on both campuses, which are intended to provide a pipeline of students matriculating into Masters programs.
- 2: Develop Professional Science Masters (PSM) programs that provide specific career skills that are in demand in the marketplace.
- 3: Foster the establishment of dual Masters programs within and between schools and colleges.
- 4: Foster the development of Masters degrees that expand the education of students also earning professional and doctoral degrees.
- 5: Provide more flexibility for Master's students through a combination of online, hybrid and evening classes.
- 6: Encourage students and fellows to initiate a mentorship relationship with a leader in their discipline, ideally in combination with named scholarships.

2.3: Expand or initiate selected educational programs that align with prominent and distinctive areas of research.

Activities:

- 1: Continue the practice of creating new programs, and expand the scope of existing ones, that align with new areas of research emphasis, such as programs in Bioinformatics, Biotechnology, among others.
- 2: Serve the needs of our students in areas of cutting-edge research with responsive curriculum and innovative teaching methodologies.

2.4: Provide opportunities for inter-professional and multidisciplinary education.

Activities:

- 1: Expand and enhance opportunities for graduate students to participate in interdisciplinary, translational, and clinical research.
- 2: Encourage and support participation in internships, and other experiential learning programs.
- 4: Establish collaborations with governmental agencies and industrial partners to identify new learning and employment opportunities for graduate students and postdoctoral fellows in the sciences and humanities.

2.5: Broaden educational experiences for students to enhance student success.

Activities:

1: Insure that matriculating international students are adequately prepared to succeed in their degree programs, e.g., have adequate English speaking and writing skills.

2: Expand the use of workshops, courses, internships and certificate programs to provide enhanced training for graduate students.

3: Support student travel to national meetings where they can present their work to a large audience for constructive feedback and networking.

4: Offer onsite job recruitment events for industrial and governmental agencies that feature student presentations about their scholarly accomplishments and career aspirations.

5: Increase the percentage of graduate students who are enrolled full-time through the development of more online and hybrid courses, and increased course offerings in the evening and day programme.

Strategic Objective 3: Diversify the sources of funding to support graduate training, research and knowledge transfer partnerships in Makerere University

One of the mandates of the Directorate is to identify and source funds to support and facilitate the functions of the DRGT – namely innovative research, graduate training, and outreach activities. To date, there is no direct government subvention to support the above activities at the university. To address this important mandate, Makerere University currently provides approximately 1% of internally generated revenue and also requires both undergraduate and graduate students to contribute towards research and outreach function of the DRGT. In addition, development partners through institutional development programs and capacity building initiatives of the university have supported the research function of the DRGT quite substantially over the last 7 years.

As Makerere transforms into a research-led university, the DRGT has witnessed over the last five years an increasing number of applications from staff for support towards research (for academic degrees and postdoctoral research), the dissemination of research outputs such as travel to conferences, support towards hosting of conferences and workshops and hosting of research journals and bulletins. The available funds are quite inadequate to support these activities, resulting in frustration of the applicants. Motivation in terms of financial incentives to encourage and entrench the research culture at Makerere has also been lacking.

Strategies

3.1: Provide the financial support necessary for the support of graduate and postdoctoral programs and to recruit and retain the best and brightest students matriculating into our programs.

Objectives:

1: Increase the amount of fellowship aid available to students to expand successful programs, as well as to create new graduate training programs.

2: Increase the amount of fellowship aid available to students to attract a diverse population of high caliber students.

3: Insure all PhD students are fully supported during the pursuit of their doctoral training.

- 4: Provide financial support for recruiting and retaining Masters students into the DC and AMC programs.
- 5: Increase the percentage of graduate students who are enrolled full-time through increased financial support.

3.2: Identify and court potential donors who can provide named scholarships, and other financial support mechanisms for graduate education and postdoctoral training.

Activities:

- 1: Pursue donations from local business leaders, alumni, among others for named scholarships, post-doctorates, lectures, symposia, and similar initiatives.
- 2: Create and publish video clips and other marketing materials that highlight available opportunities and the benefits derived by students and fellows receiving previous donations.
- 3: Develop a compelling website with video tours and student testimonials, including those of minority students and international students, which feature significant research and scholarly contributions from our students and fellows.

Increase the financial base to support innovative research, graduate education in line with the University's vision and priorities

Activities

- Developing an investment plan for DRGT
- Developing a database of funding sources
- Communicating of funding sources to staff
- Implementing the policy requirement of including overhead costs of 15% in every grant proposal
- Reviewing the existing policies on research support by the university and Government
- Lobbying university and Government to increase the support for research and research communication
- Writing grant proposals

Develop a university research agenda to guide research and attract funding

Activities

- Facilitating units to re orient their research agenda towards National development priorities
- Developing guidelines for the establishment of research chairs to source funds
- Identifying research chairs at academic unit level

Strengthen Public-Private partnership (in conjunction with the Makerere Private Sector Forum)

Activities

- Identifying research needs of the private sector
- Engaging private sector in generation and implementation of research agenda

Strengthen the Unit Grants Management Offices and enhance their capacity to achieve funding diversification targets

Activities

- Developing terms of reference for the grants management unit
- Recruiting human resource
- Procuring office equipment

Improve staff competencies to source for funds

Activities

- Training staff in financial management, entrepreneurship, grant winning proposal writing, donor relations, fundraising fundamentals, soft skills among others

Promoting commercialization of innovations

Activities

- Developing conducive policies for knowledge and technology transfer for income generation
- Sensitize staff on the Intellectual Property Management Policy and other new policies
- Establishing a fully fledged knowledge/technology transfer support unit (IP unit)
- Institute regular private (industry) - public dialogue

Strategic Objective 4: To enhance research communication, networks and partnerships nationally and internationally

The problem

The University research findings are not being used by the intended users. This has resulted into criticisms that the university is irrelevant to the development needs of the society. The cause of this has mainly been inadequate dissemination of the various research findings. This in turn has affected Makerere's contribution to social, economic and political transformation of society, and hence its visibility in the world of research. Makerere has a research database (RMACs) that has not been fully operationalised.

Although Makerere had very strong partnerships and networks in the 1960's and 70's these diminished during the 1980s and 1990s political upheavals that did not spare the university. During this time Makerere could not attract scholars of international repute and its participation in the world of knowledge generation diminished. There is need to reestablish old partnerships and develop and nurture new networks and partnerships for research and graduate training.

Strategies

To strengthen the disseminate and share research information with the different stakeholders

To strengthen the generation and dissemination of research and innovation outputs amongst

Activities

- Disseminate and popularise the Makerere University Research and Innovations Communication Strategy 2015 (RICs)
- Disseminate and share research information with the different stakeholders
- Uploading and updating research findings and ongoing research projects on the Website i.e. RMACS
- Organizing and conducting seminars, research days, breakfast meetings, conferences and dialogues
- Fully operationlising the University Press hosted in the DRGT
- Publishing policy briefs, working papers, bulletins, annual reports and Journals (e.g. Makerere University Journal) regularly
- Issuing press releases on cutting edge research findings
- Overseeing the re-establishment and operationalisation of the Makerere University Press

Develop and promote collaborative networks and partnerships in teaching, research and outreach

Activities

- Identifying agencies, institutions and universities for collaboration
- Developing and signing of memoranda of understanding with collaborating institutions
- Nurturing of existing collaborations through regular engagement
- Supporting staff and student exchanges

Integrate and enhance ICT use in research and training

Activities

Procuring and putting in place ICT infrastructure

Training staff and students in effective use of ICT in research and learning

Strategic Objective 5: To develop policies that support graduate training and innovative research

Problems

The university has developed a number of policies that impact research and graduate training, such as the Research Policy, the Intellectual Property Management Policy (developed by the DRGT, endorsed by Senate and both are now awaiting approval by Council) and the Quality Assurance Policy among others.

Over the years, the university has recruited new staff. Academic staff have not been inducted formally into the university system. Consequently they are not made aware of the university policies such as those relating to the graduate process or research management at Makerere University. This has created some disharmony in the discharge of duties by staff in areas such as supervision and examination process despite the existence of policies to guide implementation of these aspects. There are also a number of policies that exist as policy

statements in the minutes of council and senate, but not readily accessible to those who need to implement/use them. More so, these policies are not harmonized. More specific policies need to be developed to guide and ensure smooth implementation of research and graduate training process in a research led university. This strategic objective seeks to ensure that the necessary policies are in place, accessible and that staff are fully aware of them.

Strategies

5.1. Harmonise existing policies and guidelines that promote graduate training and innovative research

Activities

- Conduct a full review of the University's graduate training processes including application, admissions, registration, supervision and examination the supporting policies and structures.
- To review and redefine the nature and purpose of DRGT, in light of Collegiate administration, and the devolution of graduate training function.
- Review the role of Colleges in the delivery and support of graduate education and research training,
- Reviewing existing policies and identify gaps, inconsistencies and overlaps
- Developing new policies to address gaps
- Operationalise the graduate training and research policies

5.2. Operationalise the Research, Intellectual Property Management Policies and other new policies

Activities

- Establishing the university research council
- Identifying a committee to review/develop the above policies
- Developing implementation plan and guidelines for units to operationalise the Research, IPM and the new policies
- Sensitizing staff on the research and Intellectual Property Management Policies and other new policies
- Monitoring the implementation of policies related to research and graduate training

Strategic Objective 6: Conduct outstanding research and creative work for the public good.

Strategies

6.1: Be a global leader in the translation and application of discovery, innovation, and creativity for societal good.

Activities:

- 1: Provide the highest quality graduate programs and recruit the best graduate students to pursue advances in discovery, innovation and creativity.
- 2: Build an international reputation for research and creative work in signature areas.
- 3: Identify and become members of affiliated organizations, such as the National Academy of Sciences, that promote the imagination and creativity of our faculty, students and alumni on a national level.

6.2: Enhance our reputation for internationally recognized research in basic sciences and humanities, as well as for translating discovery into practice.

Activities:

- 1: Expand the pool of highly qualified students for basic sciences and humanities research through a combination of academic programs and community outreach.
- 2: Develop a sustainable funding mechanism to support growth of the graduate student population.
- 3: Provide funding opportunities for students and postdoctoral fellows to attend national and international conferences to present their research.

Implementation arrangement. The DRGT strategic plan 2021-2030 will be implemented within the University's current procedures for Planning, Budgeting and Annual Reviews in order to meet the requirements of the University's vision, NDP II, Uganda Vision 2040 and SDGs.

Monitoring and Evaluation Framework. The DRGT acts as a coordinating centre for implementing the M&E System in assessing informational needs of all decision makers, disseminating information through comprehensive reporting mechanisms and ensuring that needs are met in an efficient and timely manner. The monitoring and evaluation framework measures progress in achieving priority strategic sector objectives (access, equity, quality and efficiency).

Measures of Success

The success of any strategic plan has to be measured in both short and long term goals. In the short term, success of this plan will be measured by an increase in research activity and a resulting increase in funding applications. Over the long term, success will be measured through increased graduate student programs and research; recruitment and retention of outstanding researchers; increased research activity and capacity; increased external funding; increased private sector partnerships; increased commercialization, knowledge transfer and dissemination of research through publications and conference presentations; and the development of a vibrant research culture).

The key performance indicators that will provide a direct measure of success for this plan are:

- Research Funding Achieve and maintain top 3 in comparison group
- Research Dissemination Achieve and maintain top 5 in comparison group
- Industry Engagement & Commercialization at least one new start-up/spin-off
- International Development 3 major projects
- Students increased undergraduate & graduate student participation in research

Logic Framework

Objective	Strategies	Activities	Outputs	Outcomes	Measure of Success / Performance Indicators
1.To foster research excellence through production of quality research and graduate training	Motivate staff to undertake research supervision	<p>Reviewing staff supervision & examination guidelines, allowances,</p> <p>Providing small grants for graduate students Improve staff motivation</p> <p>Rewarding best performing staff</p> <p>Supporting sabbatical for staff</p>	<p>-Reviewed guidelines available to staff</p> <p>-Small grants scheme available</p> <p>-Reward system in place</p> <p>- A number of staff sent on sabbatical</p>	Academic staff motivated to efficiently train graduate students and supervise research	<p>-Meeting reports</p> <p>-No of small grants awarded per year</p> <p>-No. of completed theses/dissertations submitted per unit</p> <p>-No of staff recognized/rewarded per year</p> <p>No. of staff sent on sabbatical per year</p>
	Facilitate the development of distinctive and unique academic programmes to establish Mak as a leader in graduate education and innovation	<p>Facilitating development and delivery of cross-cutting courses for PhD and Masters students</p> <p>Supporting review and harmonisation of graduate curricula</p>	<p>-Approved curriculum of cross-cutting courses</p> <p>-Course units offered per academic</p> <p>-Program harmonisation meetings</p>	Better skilled graduates	<p>No. of graduate students taking the courses</p> <p>-Course units offered per academic</p>

		<p>Lobbying staff from the Diaspora to give-back to Mak by training,</p> <p>Supporting visiting professors</p> <p>Writing a project proposal for possible donor funding for students' support system (e-learning, scholarly and scientific writing, data management and analytical skills enhancement)</p> <p>Establishing small grants scheme for students</p>	<p>-Harmonised graduate programs</p> <p>-Correspondences with academia in the diaspora</p> <p>-Support scheme for visiting professors in place</p> <p>-Small grants scheme in place</p>		<p>-Minutes of harmonisation meetings</p> <p>-10 (five each from humanities and sciences) of visiting professors per year</p> <p>-No. of grants awarded per year</p>
	<p>Improve infrastructure for the research and graduate training</p>	<p>Identifying possible sources of funding</p> <p>Initiating private-partner cooperation</p> <p>Building state of art structure for DRGT with conferencing facilities</p>	<p>MOUs</p> <p>State of art structures for DRGT & graduate students with an electronic conferencing unit</p>	<p>An enhanced environment for coordination of research and for graduate students</p>	<p>-two fully furnished structures</p> <p>-No of private-partners collaborating</p> <p>-</p>
	<p>Harmonise existing policies and guidelines that promote graduate</p>	<p>Identifying a committee to harmonise existing policies</p>	<p>-Reviewed policies</p> <p>- New policies in place</p>	<p>Research policy environment improved</p>	<p>Minutes and reports</p>

	training & innovative research	<p>Reviewing existing policies and identify gaps, inconsistencies and overlaps</p> <p>Developing new polices to address gaps</p>		Research income to the university increased	Number of policy documents
	Operationalise the Research, Intellectual Property Management Policies and other new policies	<p>Writing a proposal to establish the university research council</p> <p>Developing implementation plan and guidelines for units to operationalise the Research, IPM and the new policies</p> <p>Sensitizing staff on the research and IPM and other new policies</p> <p>Monitoring the implementation of policies related to research and graduate training</p>	<p>University research council</p> <p>Plans and guidelines in placeSensitization meetings</p>	<p>Makerere research is relevant</p> <p>MAK is on the cutting edge of research</p> <p>MAK attains excellence</p>	<p>Operational council</p> <p>Proposal</p> <p>ToRs for the council</p> <p>Guidelines</p> <p>Minutes and reports</p>
3.Diversify and increase research funding for graduate training and	Develop a university research agenda to guide research and attract funding	Facilitating units to re orient their research agenda towards National development priorities	<p>-Seminars</p> <p>-Guidelines for research chairs</p>	Strategic direction for research at Makerere	<p>-Seminar reports</p> <p>-Research Ag</p> <p>-Research agenda document</p>

research to support long term sustained		Developing guidelines for the establishment of research chairs to source funds	-University research agenda -	University profile elevated	-unit research agendas
	Increase the financial base to support innovative research, graduate training and outreach	<p>Developing an investment plan for DRGT</p> <p>Subscribing to research funding information databases</p> <p>Communicating of funding sources to staff</p> <p>Implementing the policy requirement of including overhead costs of 15% in every grant proposal</p> <p>Reviewing the existing policies on research support by the university and Government</p> <p>Lobbying university & Government to increase the support for research & communication</p> <p>Writing grant proposals</p>	<p>-Investment plan</p> <p>-Subscription to a funding database</p> <p>-communication with staff and units</p> <p>-Reviewed policies on research support</p> <p>-Meetings with government</p> <p>-Grant proposals</p>	<p>3.2.1 to 3.2.7</p> <p>Funds to support more research at Makerere available</p> <p>University staff motivated to undertake research</p>	<p>-emails sent</p> <p>- increased revenue reflected in DRGT Books of Accounts</p> <p>-Meetings and reports</p> <p>-No. of successful grant proposals</p> <p>-Direct government support to research</p> <p>-</p>

	Strengthen public-private partnership	Identifying research needs of the private sector Holding meetings with private sector to participate in the generation and implementation of the university and industry research agenda	-Priority needs of private sector documented Joint university-private sector research agenda -MOUs	University conducts relevant research for industry Improved working relations with the private sector University profile elevated	-Minutes and Reports -No. of MOUs
	Improve staff competencies to source for funds	Training staff in financial management, entrepreneurship, proposal writing, donor relations, fundraising fundamentals etc	-Training workshops -Training manuals -Fundable proposals	Staff skills in mobilising and managing resources for research enhanced	-No. of training workshops -Workshop reports -
	Promote the commercialization of innovations	Developing conducive policies for knowledge and technology transfer for income generation Sensitize staff on the IPM and other policies Establishing a fully fledged knowledge / technology	-Policy documents -Seminars -IP unit -meetings with private sector -MOUs	More research innovations are communicated Improved services to society Improved incomes to the industry	-Meetings and Reports -No. of patents and licences held -Increased income from private sector of 1% per annum -

		transfer support unit (IP unit?) Dialoging with the private (industry) and public sectors		Research income to the university increased	
	Establish a grants management unit in DRGT to facilitate applying for funds	Developing terms of reference for the grants management unit Recruiting human resource Procuring office equipment	-ToRs -Humans resource recruited -Office equipment	Research income to the university increased	-income to the university through the grants office increased by 1%
4.To Enhance Research Communication , Networks & Partnerships Nationally and Internationally	Disseminate and share research information with the different stakeholders	Writing research communication strategy for the DRGT Improving and updating the DRGT Website/RMACS Uploading research findings on the Website / RMACS Organizing and conducting seminars, research days, breakfast meetings, conferences and dialogues Operationlising a Press Publishing policy briefs	-Approved research communication strategy document -A website manager hired -Regularly updated Website and RMACS database -Seminars and meetings -a publishing unit -Policy briefs, working papers and press releases	Society benefits from Makerere's research outputs Makerere's contribution to the development of society, is increased (MAK is relevant)	-Minutes and seminar reports -Website manager -Approved communication strategy document -A Current website and RMACS -Publishing unit

	Develop and promote collaborative networks, and partnerships in teaching, research and outreach	Identifying agencies, institutions and universities for collaboration Developing and signing of memoranda of understanding with collaborating institutions Supporting staff and graduate student exchanges	-MOUs -Grant scheme for staff and graduate student exchange	Internationalisation of Makerere as a research and graduate training institution Research & training income to the university is increased	-Number of research networks & partnerships increased by 10% -No of staff and graduate students exchanged increased by 10%
	Integrate and enhance ICT use in research and training	Procuring and putting in place ICT infrastructure	-Wireless Hot Spot connectivity in DRGT and graduate students' buildings	Staff and Students conduct research and graduate training more efficiently	-LAN – wireless hotspots -Workshop reports -Training manuals

		Training staff and students in effective use of ICT in research and learning	-Training manuals -Training workshops		-No. of staff and students trained
5.To develop, review and promote policies that support graduate training and research	Harmonise existing policies and guidelines that promote graduate training & innovative research	Identifying a committee to harmonise existing policies Reviewing existing policies and identify gaps, inconsistencies and overlaps Developing new polices to address gaps	-Reviewed policies - New policies in place	Research policy environment improved Research income to the university increased	-Minutes and reports Number of policy documents
	Operationalise the Research, Intellectual Property Management Policies and other new policies	Writing a proposal to establish the university research council Developing implementation plan and guidelines for units to operationalise the Research, IPM and the new policies Sensitizing staff on the research and IPM and other new policies Monitoring the implementation of policies related to research and graduate training	University research council Plans and guidelines in place Sensitization meetings	Makerere research is relevant MAK is on the cutting edge of research MAK attains excellence	Operational council Proposal ToRs for the council Guidelines Minutes and reports

<p>5. Conduct outstanding research and creative work for the public good</p>	<p>Facilitate the translation and application of discovery, innovation, and creativity for societal good</p>	<p>Become members of affiliated institutions e.g National Academy of Sciences, Support centres of excellence in different disciplines Build international reputation for research and creative work in signature areas</p>	<p>MOUs Grant scheme for staff and graduate student exchange</p>	<p>Internationalisation of MaK as a research and graduate training institution Research & training income to the university is increased</p>	<p>-No. research networks & partnerships increased by 10% -No. staff /students exchanged increased by 10%</p>
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Monitoring & Evaluation Plan

Strategy	Short-term Activities (Jun2020-Jun 2023)	Performance Indicators/Measures of Success	Medium-term Activities (Jul 2020-Jun 2026)	Performance Indicators/Measures of Success	Long-term Activities (Jul 2020-Jun 2030)	Performance Indicators/Measures of Success	Outcome within Plan Period
1.1Operationalize the Directorate of research and graduate training	1.1.1 Writing a proposal for the new governance structure 1.1.2 Presenting the proposal to the relevant policy organs of the university 1.1.2 Recruiting staff	New governance structure approved and some additional staff recruited	1.1.2 Recruiting staff	Additional staff recruited	1.1.2 Recruiting staff	Additional staff recruited	Governance structure fully implemented
1.2 Develop / build human resource capacity for efficient and effective coordination	1.2.1 Recruiting more staff to fill up establishment 1.2.2 Training DRGT staff in various aspects of research management, finance & accounting,	Improved coordination of research and graduate training	1.2.1 Recruiting more staff to fill up establishment 1.2.2 Training DRGT staff in various aspects of research management,	Improved coordination of research and graduate training Results oriented	1.2.1 Recruiting more staff to fill up establishment 1.2.2 Training DRGT staff in various aspects of research management,	Improved coordination of research and graduate training	DRGT more efficient and effective in the coordination of research and graduate training

	<p>entrepreneurship & soft skills</p> <p>1.2.3 Bench-marking good practices through visits to centres of excellence, web search, documentation</p> <p>1.2.4 Developing & implementing staff appraisal system</p>	<p>Results oriented management followed</p>	<p>finance & accounting, entrepreneurship & soft skills</p> <p>1.2.3 Bench-marking good practices through visits to centres of excellence, web search, documentation</p> <p>1.2.4 Implementing staff appraisal system</p>	<p>management followed</p>	<p>finance & accounting, entrepreneurship & soft skills</p> <p>1.2.3 Bench-marking good practices through visits to centres of excellence, web search, documentation</p> <p>1.2.4 Implementing staff appraisal system</p>	<p>Results oriented management followed</p>	
<p>1.3 Develop strong links between DRGT & teaching /research Units</p>	<p>1.3.1 Sensitising university community on existing policies regarding graduate training & research</p> <p>1.3.2 Training staff at the units in various aspects of research management, finance &</p>	<p>- Improved management of the research and graduate training process</p> <p>- Academic staff are competent in supervising research</p>	<p>1.3.1 Sensitising university community on existing policies regarding graduate training & research</p> <p>1.3.2 Training staff at the units in various aspects of</p>	<p>- Improved management of the research and graduate training process</p> <p>- Academic staff are competent in supervising research</p>	<p>1.3.1 Sensitising university community on existing policies regarding graduate training & research</p> <p>1.3.2 Training staff at the units in various aspects of</p>	<p>- Improved management of the research and graduate training process</p> <p>- Academic staff are competent in supervising research</p>	<p>University policies and guidelines followed</p> <p>Research and graduate training process at</p>

	accounting and soft skills	- Closer collaboration between DRGT and units	research management, finance & accounting and soft skills	- Closer collaboration between DRGT and units	research management, finance & accounting and soft skills	- Closer collaboration between DRGT and units	Makerere predictable
1.4 Develop an ICT based data management & processing system for graduate study at university	1.4.1 Training DRGT personnel in ICT and management 1.4.2 Creating a customised software for tracking system for research, and supervision	DRGT using ICT in optimisation of graduate admissions, resource allocation etc.	1.4.1 Training DRGT personnel in ICT and management	DRGT using ICT in optimisation of graduate admissions, resource allocation etc.	1.4.1 Training DRGT personnel in ICT and management	DRGT using ICT in optimisation of graduate admissions, resource allocation etc.	Optimised graduate admissions and resource allocation ICT integrated in the management & coordination of research and graduate training
1.5.Motivate staff to undertake research supervision	1.5.1 Reviewing staff supervision & examination guidelines, allowances, 1.5.2 Providing small grants for graduate	Academic staff motivated to efficiently train graduate students and supervise research	1.5.2 Providing small grants for graduate students Improve staff motivation 1.5.3 Rewarding	Academic staff motivated to efficiently train graduate students and supervise research	1.5.1 Reviewing staff supervision & examination guidelines, allowances, 1.5.2 Providing small grants for	Academic staff motivated to efficiently train graduate students and supervise research	Optimum number of graduate students supervised by each academic staff

	<p>students Improve staff motivation</p> <p>1.5.3 Rewarding best performing staff</p> <p>1.5.4 Supporting sabbatical for staff</p>		<p>best performing staff</p> <p>1.5.4 Supporting sabbatical for staff</p>		<p>graduate students Improve staff motivation</p> <p>1.5.3 Rewarding best performing staff</p> <p>1.5.4 Supporting sabbatical for staff</p>		
<p>1.6.Support training of Graduate students</p>	<p>1.6.1 Facilitating development and delivery of cross-cutting courses for PhD and Masters students</p> <p>1.6.2 Supporting review and harmonisation of graduate curricula</p> <p>1.6.3 Lobbying staff from the Diaspora to give-back to MAK by training,</p>	<p>Better skilled graduates</p>	<p>1.6.1 Facilitating development and delivery of cross-cutting courses for PhD and Masters students</p> <p>1.6.2 Supporting review and harmonisation of graduate curricula</p>	<p>Better skilled graduates</p>	<p>1.6.1 Facilitating development and delivery of cross-cutting courses for PhD and Masters students</p> <p>1.6.2 Supporting review and harmonisation of graduate curricula</p> <p>1.6.3 Lobbying staff from the</p>	<p>Better skilled graduates</p>	<p>Better skilled graduates</p>

	<p>1.6.4 Supporting visiting professors</p> <p>1.6.5 Writing a project proposal for possible donor funding for students' support system (e-learning, scholarly and scientific writing, data management and analytical skills enhancement)</p> <p>1.6.6 Establishing small grants scheme for students</p>		<p>1.6.3 Lobbying staff from the Diaspora to give-back to MAK by training,</p> <p>1.6.4 Supporting visiting professors</p> <p>1.6.6 Providing small grants scheme for students</p>		<p>Diaspora to give-back to MAK by training,</p> <p>1.6.4 Supporting visiting professors</p> <p>1.6.6 Providing small grants scheme for students</p>		
<p>1.7.Improve infrastructure for the research and graduate training</p>	<p>1.7.1 Identifying possible sources of funding</p> <p>1.7.2 Initiating private-partner cooperation</p> <p>Building state of art structure for DRGT with conferencing facilities</p>	<p>Enhanced university-private sector relationship</p>	<p>1.7.3 Building state of art structure for DRGT with conferencing facilities</p>	<p>Enhanced university-private sector relationship</p>			<p>An enhanced environment for coordination of research and for graduate students</p>

<p>3.1. Develop a university research agenda to guide research and attract funding</p>	<p>3.1.1 Facilitating units to re orient their research agenda towards National development priorities</p> <p>3.1.2 Developing guidelines for the establishment of research chairs to source funds</p> <p>3.1.3 Identifying research chairs at academic units</p>	<p>Strategic direction for research at Makerere</p> <p>University profile elevated</p>				<p>Strategic direction for research at Makerere</p> <p>University profile elevated</p>	
<p>3.2. Increase the financial base to support innovative research, graduate training and outreach</p>	<p>3.2.1 Developing an investment plan for DRGT</p> <p>3.2.2 Subscribing to research funding information databases</p> <p>3.2.3 Communicating of funding sources to staff</p>	<p>Funds to support more research at Makerere available</p> <p>University staff motivated to undertake research</p>	<p>3.2.2 Subscribing to research funding information databases</p> <p>3.2.3 Communicating of funding sources to staff</p>	<p>Funds to support more research at Makerere available</p> <p>University staff motivated to undertake research</p>	<p>3.2.2 Subscribing to research funding information databases</p> <p>3.2.3 Communicating of funding sources to staff</p> <p>3.2.5 Reviewing the existing</p>	<p>Funds to support more research at Makerere available</p> <p>University staff motivated to undertake research</p>	<p>Staff have access to an improved research fund base improved</p>

	<p>3.2.4 Implementing the policy requirement of including overhead costs of 15% in every grant proposal</p> <p>3.2.5 Reviewing the existing policies on research support by the university and Government</p> <p>3.2.6 Lobbying university &Government to increase the support for research & communication</p> <p>3.2.7 Writing grant proposals</p>		<p>3.2.5 Reviewing the existing policies on research support by the university and Government</p> <p>3.2.6 Lobbying university &Government to increase the support for research & communication</p> <p>3.2.7 Writing grant proposals</p>		<p>policies on research support by the university and Government</p> <p>3.2.6 Lobbying university &Government to increase the support for research & communication</p> <p>3.2.7 Writing grant proposals</p>		
Strengthen public-private partnership	<p>3.3.1 Identifying research needs of the private sector</p> <p>3.3.2 Holding meetings with private sector to participate in the generation and</p>	University conducts relevant research for industry	<p>3.3.1 Identifying research needs of the private sector</p> <p>3.3.2 Holding meetings with private sector</p>	University conducts relevant research for industry	<p>3.3.1 Identifying research needs of the private sector</p> <p>3.3.2 Holding meetings with private sector to participate in</p>	University conducts relevant research for industry	University research outputs benefiting society

	implementation of the university and industry research agenda		to participate in the generation and implementation of the university and industry research agenda		the generation and implementation of the university and industry research agenda		
3.4 Improve staff competencies to source for funds	3.4.1 Training staff in financial management, entrepreneurship, proposal writing, donor relations, fundraising fundamentals etc	Many grants held by University staff	3.4.1 Training staff in financial management, entrepreneurship, proposal writing, donor relations, fundraising fundamentals etc	Many grants held by University staff	3.4.1 Training staff in financial management, entrepreneurship, proposal writing, donor relations, fundraising fundamentals etc	Many grants held by University staff	Staff:grant ratio greatly improved
3.5 Promote the commercialization of innovations	3.5.1 Developing conducive policies for knowledge and technology transfer for income generation	More research innovations are communicated Improved services to society	3.5.1 Developing conducive policies for knowledge and technology transfer for	More research innovations are communicated Improved services to society	3.5.1 Developing conducive policies for knowledge and technology transfer for	More research innovations are communicated Improved services to society	More research innovations are communicated

	<p>3.5.2 Sensitize staff on the IPM and other policies</p> <p>3.5.3 Establishing a fully fledged knowledge / technology transfer support unit (IP unit?)</p> <p>3.5.4 Dialoging with the private (industry) and public sectors</p>	<p>Improved incomes to the industry</p> <p>Research income to the university increased</p>	<p>income generation</p> <p>3.5.2 Sensitize staff on the IPM and other policies</p> <p>3.5.3 Establishing a fully fledged knowledge / technology transfer support unit (IP unit?)</p> <p>3.5.4 Dialoging with the private (industry) and public sectors</p>	<p>Improved incomes to the industry</p> <p>Research income to the university increased</p>	<p>income generation</p> <p>3.5.2 Sensitize staff on the IPM and other policies</p> <p>3.5.3 Establishing a fully fledged knowledge / technology transfer support unit (IP unit?)</p> <p>3.5.4 Dialoging with the private (industry) and public sectors</p>	<p>Improved incomes to the industry</p> <p>Research income to the university increased</p>	<p>Improved services to society</p> <p>Improved incomes to the industry</p> <p>Research income to the university increased</p>
<p>3.7 Establish a grants management unit in DRGT to facilitate applying for funds</p>	<p>3.7.1 Developing terms of reference for the grants management unit</p> <p>3.7.2 Recruiting human resource</p>	<p>Research income to the university increased</p>	<p>3.7.2 Recruiting human resource</p> <p>3.7.3 Procuring office equipment</p>	<p>Research income to the university increased</p>	<p>3.7.2 Recruiting human resource</p> <p>3.7.3 Procuring office equipment</p>	<p>Research income to the university increased</p>	<p>Research income to the university increased</p>

	3.7.3 Procuring office equipment						
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Monitoring & Evaluation Plan (cont'd)

Strategy	Short-term Activities (Jun2020-Jun 2023)	Performance Indicators/Measures of Success	Medium-term Activities (Jul 2020-Jun 2026)	Performance Indicators/Measures of Success	Long-term Activities (Jul 2020-Jun 2030)	Performance Indicators/Measures of Success	Outcome within Plan Period
4.1. Disseminate and share research information with the different stakeholders	<p>Writing research communication strategy for the DRGT</p> <p>Improving and updating the Directorate of Research and Graduate Training Website/RMACS regularly.</p> <p>Uploading research findings on the Website / RMACS</p> <p>Organizing and conducting seminars, research days, breakfast meetings, conferences and dialogues</p>	<p>Research communication streamlined and working smoothly</p> <p>Regular feedback on research communication, RMACS, DRGT website from staff and stakeholders</p>	<p>1. Improving and updating the Directorate of Research and Graduate Training Website/RMACS regularly.</p> <p>2. Uploading research findings on the Website / RMACS</p> <p>3. Organizing and conducting seminars, research days, breakfast meetings, conferences and dialogues</p>	<p>Research communication streamlined and working smoothly</p> <p>Regular feedback on research communication, RMACS, DRGT website from staff and stakeholders</p>	<p>1. Improving and updating the Directorate of Research and Graduate Training Website/RMACS regularly.</p> <p>2. Uploading research findings on the Website / RMACS</p> <p>3. Organizing and conducting seminars, research days, breakfast meetings, conferences and dialogues</p> <p>4. Publishing policy briefs and</p>	<p>Research communication streamlined and working smoothly</p> <p>Regular feedback on research communication, RMACS, DRGT website from staff and stakeholders</p>	<p>Society benefits from Makerere's research outputs</p> <p>Makerere's contribution to the development of society, is increased (MAK is relevant)</p>

	<p>Operationlising a publishing unit in DRGT in conjunction with I@mak.com</p> <p>Publishing policy briefs and working papers and press releases cutting edge research findings</p>		<p>4. Publishing policy briefs and working papers and press releases on cutting edge research findings</p>		<p>working papers and press releases on cutting edge research findings</p>		
<p>4.2. Develop and promote collaborative networks, and partnerships in teaching, research and outreach</p>	<p>1. Identifying agencies, institutions and universities for collaboration</p> <p>2. Developing and signing of memoranda of understanding with collaborating institutions</p> <p>3. Supporting staff and graduate student exchanges</p>	<p>Internationalisation of Makerere as a research and graduate training institution</p>	<p>1. Identifying agencies, institutions and universities for collaboration</p> <p>2. Developing and signing of memoranda of understanding with collaborating institutions</p> <p>3. Supporting staff and graduate student exchanges</p>	<p>Internationalisation of Makerere as a research and graduate training institution</p>	<p>1. Identifying agencies, institutions and universities for collaboration</p> <p>2. Developing and signing of memoranda of understanding with collaborating institutions</p> <p>3. Supporting staff and graduate student exchanges</p>	<p>Internationalisation of Makerere as a research and graduate training institution</p>	<p>Internationalisation of Makerere as a research and graduate training institution</p>

4.3.Integrate and enhance ICT use in research and training	1. Procuring and putting in place ICT infrastructure 2. Training staff and students in effective use of ICT in research and learning	Staff and Students conduct research and graduate training more efficiently	1. Procuring and putting in place ICT infrastructure 2. Training staff and students in effective use of ICT in research and learning	Staff and Students conduct research and graduate training more efficiently	1. Procuring and putting in place ICT infrastructure 2.Training staff and students in effective use of ICT in research and learning	Staff and Students conduct research and graduate training more efficiently	Staff and Students conduct research and graduate training more efficiently
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Strategy	Short-term Activities (Jun2020-Jun 2023)	Performance Indicators/Measures of Success	Medium-term Activities (Jul 2020-Jun 2026)	Performance Indicators/Measures of Success	Long-term Activities (Jul 2020-Jun 2030)	Performance Indicators/Measures of Success	Outcome within Plan Period
5.1.Harmonise existing policies and guidelines that promote graduate training & innovative research	Identifying a committee to harmonise existing policies Reviewing existing policies and identify gaps, inconsistencies and overlaps	Research policy environment improved	Developing new polices to address gaps	Research policy environment improved	Developing new polices to address gaps	Research policy environment improved	Research policy environment improved

	Developing new policies to address gaps						
5.2. Operationalise the Research, Intellectual Property Management Policies and other new policies	<p>Writing a proposal to establish the university research council</p> <p>Developing implementation plan and guidelines for units to operationalise the Research, IPM and the new policies</p> <p>Sensitizing staff on the research and IPM and other new policies</p> <p>Monitoring the implementation of policies related to research and graduate training</p>	<p>Makerere research is relevant</p> <p>MaK is on the cutting edge of research</p> <p>MaK attains excellence in research and innovations</p>	<p>4.2.3 Sensitizing staff on the research and IPM and other new policies</p> <p>4.2.4 Monitoring the implementation of policies related to research and graduate training</p>	<p>Makerere research is relevant</p> <p>MaK is on the cutting edge of research</p> <p>MaK attains excellence in research and innovations</p>	<p>1) Sensitizing staff on the research and IPM and other new policies</p> <p>2) Monitoring the implementation of policies related to research and graduate training</p>	<p>Makerere research is relevant</p> <p>MaK is on the cutting edge of research</p> <p>MaK attains excellence in research and innovations</p>	<p>Makerere research is relevant</p> <p>MaK is on the cutting edge of research</p> <p>MaK attains excellence in research and innovations</p>

Costing and Financing Framework of the DRGT SP 2021-2030

Strategy	Activities	Total
Develop new governance structure for the proposed directorate of research & graduate training	1.1.1 Writing a proposal for the new governance structure 1.1.2 Recruiting staff	1billion
Develop / build human resource capacity for efficient & effective coordination	1.2.1 Recruiting more staff to fill up establishment 1.2.2 Training DRGT staff in various aspects of research management, finance & accounting, entrepreneurship & soft skills 1.2.3 Bench-marking good practices through visits to centres of excellence, web search, documentation 1.2.4 Developing & implementing staff appraisal system	1billion
Develop strong links between DRGT & teaching /research Units	1.3.1 Sensitising staff on existing policies regarding graduate training & research 1.3.2 Training staff at the units in various aspects of research management, finance & accounting and soft skills	1billion
Develop ICT based data management & processing system	1.4.1 Training DRGT personnel in ICT and management 1.4.2 Creating a customised software for tracking system for research, and supervision	1billion
Motivate staff to undertake research supervision	1.5.1 Reviewing staff supervision & examination guidelines, allowances, 1.5.2 Providing small grants for graduate students Improve staff motivation 1.5.3 Rewarding best performing staff 1.5.4 Supporting sabbatical for staff	1billion

<p>Support training of Graduate students</p>	<p>1.6.1 Facilitating development and delivery of cross-cutting courses for PhD and Masters students</p> <p>1.6.2 Supporting review and harmonisation of graduate curricula</p> <p>1.6.3 Lobbying staff from the Diaspora to give-back to MAK by training,</p> <p>1.6.4 Supporting visiting professors</p> <p>1.6.5 Writing a project proposal for possible donor funding for students' support system (e-learning, scholarly and scientific writing, data management and analytical skills enhancement)</p> <p>1.6.6 Establishing small grants scheme for students</p>	<p>1billion</p>
<p>Improve infrastructure for DRGT</p>	<p>1.7.1 Identifying possible sources of funding</p> <p>1.7.2 Initiating private-partner cooperation</p> <p>Building state of art structure for DRGT with conferencing facilities</p>	<p>1billion</p>
<p>Disseminate and share research information with the different stakeholders</p>	<p>2.1.1 Writing research communication strategy for the DRGT</p> <p>2.1.2 Improving and updating the Directorate of Research and Graduate Training Website/RMACS regularly.</p> <p>2.1.3 Uploading research findings on the Website / RMACS</p> <p>2.1.3 Organizing and conducting seminars, research days, breakfast meetings, conferences and dialogues</p> <p>2.1.5 Operationlising a publishing unit in DRGT in conjunction with I@mak.com</p> <p>2.1.6 Publishing policy briefs and working papers and press releases cutting edge research findings</p>	<p>2billion</p>
<p>Develop and promote collaborative networks, and partnerships in</p>	<p>2.2.1 Identifying agencies, institutions and universities for collaboration</p>	<p>1billion</p>

teaching, research and outreach	<p>2.2.2 Developing and signing of memoranda of understanding with collaborating institutions</p> <p>2.2.3 Supporting staff and graduate student exchanges</p>	
Integrate and enhance ICT use in research and training	<p>2.3.1 Procuring and putting in place ICT infrastructure</p> <p>2.3.2 Training staff and students in effective use of ICT in research and learning</p>	1billion
Develop a university research agenda to guide research and attract funding	<p>3.1.1 Facilitating units to re orient their research agenda towards National development priorities</p> <p>3.1.2 Developing guidelines for the establishment of research chairs to source funds</p> <p>3.1.3 Identifying research chairs at academic units</p>	1billion
Increase the financial base to support innovative research, graduate training and outreach	<p>3.2.1 Developing an investment plan for DRGT</p> <p>3.2.2 Subscribing to research funding information databases</p> <p>3.2.3 Communicating of funding sources to staff</p> <p>3.2.4 Implementing the policy requirement of including overhead costs of 15% in every grant proposal</p> <p>3.2.5 Reviewing the existing policies on research support by the university and Government</p> <p>3.2.6 Lobbying university & Government to increase the support for research & communication</p> <p>3.2.7 Writing grant proposals</p>	1billion
Strengthen public-private partnership	<p>3.3.1 Identifying research needs of the private sector</p> <p>3.3.2 Holding meetings with private sector to participate in the generation and implementation of the university and industry research agenda</p>	2billion

Improve staff competencies to source for funds	3.4.1 Training staff in financial management, entrepreneurship, proposal writing, donor relations, fundraising fundamentals etc	2billion
Promote the commercialization of innovations	3.5.1 Developing conducive policies for knowledge and technology transfer for income generation 3.5.2 Sensitize staff on the IPM and other policies 3.5.3 Establishing a fully fledged knowledge / technology transfer support unit (IP unit) 3.5.4 Dialoguing with the private (industry) and public sectors	2billion
3.7 Establish a grants management unit in DRGT to facilitate applying for funds	3.7.1 Developing terms of reference for the grants management unit 3.7.2 Recruiting human resource 3.7.3 Procuring office equipment	1billion
Harmonise existing policies and guidelines that promote graduate training & innovative research	4.1.1 Identifying a committee to harmonise existing policies 4.1.2 Reviewing existing policies and identify gaps, inconsistencies and overlaps 4.1.3 Developing new polices to address gaps	1billion
Operationalise the Research, Intellectual Property Management Policies and other new policies	4.2.1 Writing a proposal to establish the university research council 4.2.2 Developing implementation plan and guidelines for units to operationalise the Research, IPM and the new policies 4.2.3 Sensitizing staff on the research and IPM and other new policies 4.3.4 Monitoring the implementation of policies related to research and graduate training	1billion
GRAND TOTAL		21billion

Budget Total: Twenty one millions (UGX. 21 billion)

Appendix

Student projection in the next 10 years for the academic units by level

As one of the core functions of the University, the teaching and learning theme had two major goals. First, enhanced access opportunities that meet the higher education requirements at national, regional and international levels; and second, assuring improved quality and relevancy of teaching and learning. The strategic focus under this theme was to produce a graduate who will not only command traditional academic knowledge and subject specific skills but also possess generalist skills, such as, problem solving, reflective abilities, willingness to learn and a predisposition to lifelong learning. This approach was designed as a shift from teacher based to more learner centred methodologies of instruction that will guarantee the provision of high quality and relevant programs.

The key indicators against which to evaluate progress include:- the number of students enrolled for Makerere University degrees at other campuses both on and off-shore, ratio of undergraduate to graduate students, number of programs using ODeL delivery modes, student-facility ratio, staff-student ratio, number of staff trained in learner centred pedagogy/andragogy, percentage of employees who rank Makerere University graduates highly, number of students and lecturers who participate in multi-disciplinary problem based field attachments, number of joint degrees awarded with other Universities in the region and overseas and students' pass and completion rates.

The enrolment distribution by nationality and sex are given in table below, The number of females has been constant at 44% of total enrolment. International students have declined to 2% by the time of the review compared to the 2008/09 baseline value of 8%. Similarly, the graduate student mix has remained at an average of 6% compared to the Strategic Plan projection of 20%.

The Plan articulates the need to embrace evidence based decision making. One of the strategic thrusts outlined by the University is the need to generate institutional data to inform and guide the academic and strategic decisions taken at both unit and institutional levels. Among the key parameters considered by the Strategic Plan in attaining this strategic direction was **Enrolment Planning**. This is defined as the 'a comprehensive process designed to help an institution achieve and maintain optimum recruitment, retention and graduation rates of students'. It was envisaged that enrolment Planning as a teaching and learning strategy will be instituted by 2020.

The rationale for enrolment Planning will be premised on the University strategy expressed the need to move from a predominantly teaching (undergraduate) to a research led institution with at least 20% of enrolment at graduate level.

During the current strategic planning period, the limitations in graduate enrolment have been attributed to 3 key factors:

Availability of funding for graduate programmes, Government support/scholarships were stopped in 1998. As a result, the majority of PhDs are attached to a specific research funding project mainly through donor support. This limits the number of students that can be admitted for PhD programmes indeed the bulk of students are Makerere University staff and

as the percentage of staff with PhDs increase the potential students decrease, despite the fact that the supervision capacity has increased.

Graduation rates for the graduate students has remained low compared to their undergraduate counterparts. This is an indicator for capacity gaps in supervision and retention of graduate students.

Information system capturing the number of graduate enrolment has been inadequate. Registration of graduate students is mainly effective in the admission year.

COLLEGE	Programme	2016/ 17	2017/ 18	2018/ 19	Growth (%)	2019/ 20	2020/ 21	2021 /22	2022/ 23	2023 /24	2024/ 25	2025 /26	2026 /27	2027 /28	2028/ 29	2029/ 30
CAES	PHD*	52	19	24	40	26	25	26	27	28	29	30	31	32	33	34
	MASTERS	272	268	165	40	167	172	178	185	191	198	205	211	218	224	231
	PGD	22	6	13	40	15	14	14	15	15	16	16	17	17	18	18
CHUSS	PHD*	23	19	34	40	36	35	37	38	39	41	42	44	45	46	48
	MASTERS	349	304	465	40	467	484	502	521	539	558	577	595	614	632	651
	PGD	20	19	25	40	27	26	27	28	29	30	31	32	33	34	35
CEES	PHD*	39	37	37	40	39	38	40	41	43	44	46	47	49	50	52
	MASTERS	73	106	106	40	108	110	114	119	123	127	131	136	140	144	148
	PGD	39	34	88	40	90	92	95	99	102	106	109	113	116	120	123
COBAMS	PHD*	-	-	12	40	14	12	13	13	14	14	15	15	16	16	17
	MASTERS	476	461	573	40	575	596	619	642	665	688	711	733	756	779	802
	PGD	11	17	8	40	10	8	9	9	9	10	10	10	11	11	11
S.LAW	PHD*	-	1	-	40											
	MASTERS	59	36	77	40	79	80	83	86	89	92	95	99	102	105	108

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	PGD	-	-	-	40											
MUBS	PHD*	9	13	12	40	14	12	13	13	14	14	15	15	16	16	17
	MASTERS	496	510	654	40	656	680	706	732	759	785	811	837	863	889	916
	PGD	-	-	-	40											
CHS	PHD*	10	19	26	40	28	27	28	29	30	31	32	33	34	35	36
	MASTERS	356	434	508	40	510	528	549	569	589	610	630	650	671	691	711
	PGD	-	-	-	40											
CONAS	PHD*	5	13	20	40	22	21	22	22	23	24	25	26	26	27	28
	MASTERS	86	89	105	40	107	109	113	118	122	126	130	134	139	143	147
	PGD	-	-	-	40											
COVABS	PHD*	11	5	11	40	13	11	12	12	13	13	14	14	15	15	15
	MASTERS	76	90	71	40	73	74	77	80	82	85	88	91	94	97	99
	PGD	2	3	-	40											
CEDAT	PHD*	23	9	45	40	47	47	49	50	52	54	56	58	59	61	63
	MASTERS	168	208	208	40	210	216	225	233	241	250	258	266	275	283	291
	PGD	17	43	7	40	9	7	8	8	8	8	9	9	9	10	10
COCIS	PHD*	3	7	26	40	28	27	28	29	30	31	32	33	34	35	36
	MASTERS	117	130	147	40	149	153	159	165	171	176	182	188	194	200	206
	PGD	22	15	11	40	13	11	12	12	13	13	14	14	15	15	15

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TOTAL	PHD*	175	142	204	40	206	212	220	228	237	245	253	261	269	277	286
	MASTERS	2,528	2,636	3,182	40	3184	3309	3437	3564	3691	3818	3946	4073	4200	4328	4455
	PGD	133	137	195	40	197	203	211	218	226	234	242	250	257	265	273

D. Support infrastructure for achieving the strategic goals and the student projection- targets

Makerere Main University library was established in 1949 with a total area of 4000 square meters. The space has been expanded to 12000 square meters with a seating capacity of over 2800. During the academic year 2010/11, the registered student-book ratio was 1:7. The University has set to increase the student-book ratio to 1:22 (Strategic Plan 2008/09-2018/19), which would be categorized as “acceptable” but below the ratio of 1:30, which is categorized as “good” by the National Council for Higher Education (Statutory Instruments 2005 No.80).

The general facilities provided by the Library include: workstations, servers, sunray terminals, digital library (D-space) full text records, digital music archive, online books, e-journals, print journals, monographs and book bank collections. By 2009, the entire library collection was 384800 monographs, 2250 books, 82000 bound serials and 182000 books kept in departmental libraries. By August 2011, the library collection consisted of over 400800 monographs with an annual addition of about 2500 print books and 271 electronic books excluding donations and exchange, over 12000 titles of bound serials/periodicals and an annual subscription of about 150 titles of print serials/periodicals and over 22000 titles of electronic journals which can be accessed through the online catalogue.

The Library services comprise of the Main Library and seven specialized Branch Libraries. It serves as an Academic Library, National Reference Library, a National Legal Depository of all works published in and on Uganda by Ugandans and United Nations. The Main Library currently has eight sections namely: Technical Services, Periodicals/Serials, Reference and Circulation (including the Law collection and IDA/Basic textbook Reserve collection), Africana, Information and Communication Technology (ICT), Microfilming and Digitization, Book Bank and Bindery.

The Makerere University Library Research Commons (Mak-Lib RC), with up-to-date sophisticated computer hardware and software, provide a genuinely new and different service for the Makerere University graduate students (PhD and masters) and researchers; support research and enhance research output of Makerere University. The MakLib RC is intended to meet the study, teaching, and research needs of graduate students and academic staff.

Lecture Space

Makerere University Strategic Plan: 2008/09 – 2018/19, underscored the significance of infrastructure in facilitating teaching, learning, research, administration and other functions. The university is committed to increase lecture space by **20,000** square metres by the end of 2018, enhance the re-organization and efficient running and management of laboratory facilities by end of 2014 and improve the efficiency and effectiveness in the management of physical resources such as classrooms, laboratories, equipment and estate by the end of 2018.

The Government of Uganda has mobilized resources from the African Development Bank to support Higher Education, Science and Technology (HEST) in Uganda. The project aims to contribute to building Uganda’s human capital skills development capacity—particularly in

education, science and technology—to respond to labor market demands and spur productivity nationally. Its objective is to improve equitable access, quality and relevance of skills training and research leading to job creation and self-employment. It involves the active participation of six public universities and two degree-awarding tertiary institutions in skills training, at the various levels of higher learning. Through this project the university has improved the space availability by more than 15,000 square meters of lecture space.

Projection of Resources for achieving each strategic goal (Logoframe matrix – Appendix):

Human Resource Capacity

The current establishment was designed largely to coordinate the graduate training function. Currently, the establishment provides for one (1) Director, two (2) Deputy Directors (one in charge of Administration and the other for Research and Publications), one (1) Deputy Registrar, two (2) Senior Assistant Registrars and five (5) assistant registrars. In addition, there are support staffs including the accountant, the secretarial staff, and ancillary staff to a total of 18. Table 1 indicates the current establishment and filled positions.

Table 1 Establishment and filled positions as at November 30, 2018

Category of Staff	Establishment	Filled		Vacant
		Male	Female	Vacant
Director	1	1	-	-
Deputy Director	2	2	-	-
Principal Registrar	2		2	-
Senior Asst Registrar	2		1	1
Asst Registrar	4	1	-	3
Records Clerk	2	1	-	1
Asst Accountant	2	-	2	-
Admin/Personal Secretary	1	-	1	-
Accts Clerk	2	-	-	2
Secretary	1	-	1	-
Drivers	2	3*	-	+1

Copy typists	3	-	3	-
Office Attendants	2	-	-	2
Messenger	1	-	2*	+1
TOTAL	26	9*	10*	7**

*Over-filled

To date, only 19 (73%, n=26) of the establishment is filled. A good number of staff (18) have been recruited on contract basis. The staffing is, therefore, bottom heavy and inadequate even at the current staffing levels. Given that the university has repositioned as a research-led institution with the expected increase in the activities under the research and innovations function as well as the increasing numbers of graduate students (projected increase to 10,000 by 2018), there is need for review of the structure and function of the current DRGT. This includes a review of the staffing levels and the structure in order to meet the new expectations imposed on the School by the Strategic Plan, Research and Innovations Policy, Intellectual Property Management Policy, the DRGT strategic plan and fully recognised and recommended by the committee on university reforms i.e. the university research, administrative, finance and teaching and learning (including college formation) reform committee (URAFR). Two deputy directors namely Deputy Director (Administration) and Deputy Director (Research) have been added to assist the Director in meeting the mandates of the School. In addition, there is one deputy registrar and two assistant registrars to assist the Deputy Directors (See Annex 1). The DRGT employs 18 contract staff due to failure by the university to fill the current establishment. This has been necessary for the DRGT to at least meet most of her obligations.

Human quality and quantity in terms of skills and competences or level of training- including research and publication targets

Staff to Student Ratios

For every organisation, human resource is the prime factor for growth, stagnation or failure. Focus on human resource promotes internal cohesion and capacity to meet the overarching objectives of the institution. Over the past ten-year period, limited attention has been given to performance measurement and feedback system. The reward and compensation system is not commensurate with performance across the human resource levels. This breeds impunity and inadequate staff accountability. In addition, the improvement of the operational environment including office space, furniture and teaching and learning aides needs to be rationalised.

A snapshot evaluation of the Human Resource situation at MaK reveals several **GAPS** that manifest across the different categories of staff in varying intensity. These are:

Pedagogical skills

Orientation, induction, continuous professional development and exit arrangements

Attitude towards change, work and the institution

Customer care, communication and other life skills (Incl. entrepreneurial capabilities innovativeness, creativity, self-drive)

Moral, ethical and professional values

The match up between staff and students as measured by the staff student ratios was most favourable in the CHS at 1:6 and least favourable in the College of Business and Management Sciences (COBAMS) at 1:50. By the standards of National Council for Higher Education (NCHE), five of the 10 colleges had the acceptable number of students:

College of Agriculture and Environmental Sciences;

College of Humanities and Social Sciences;

College of Health Sciences;

College of Natural Sciences;

College of Veterinary, Animal Sciences and Biosecurity.

At the University level, the Staff to Student ratio was 1:25 which is considered high if compared to top Universities around the world (University of Cape Town 1:20, Massachusetts Institute of technology 1:9, Cambridge 1:10).

Table 2: Staff to Student Ratios

College	Ideal	Good	Acceptable	Improvable
CAES	10	15	20	25
CHUSS	15	25	30	50
COCIS	10	15	20	25
COBAMS	15	20	25	30
CHS	8	15	20	25
CEES	15	20	25	30
CONAS	10	15	20	25
CEDAT	10	15	20	25
COVAB	8	15	20	25

LAW	15	20	25	30
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The National Council for Higher Education specifies staff requirements at four different levels (Ideal, Good, Acceptable and improvable). While the university strives to comply with the staffing requirements at the *ideal* level, it is practically difficult to attain this without limiting access to the university by applicants. An alternative to limiting access to the university would be to have adequate funding to hire academic staff with appropriate qualifications from anywhere in the world. This too is not feasible since the salaries offered at the university or in the country are much lower than those of top universities in the region (and by extension in top universities around the world). For the university to attain ideal SSRs at the present number of academic staff, it needs to have 16,076 students; a reduction of over 20,000 students. Even to attain acceptable levels of SSRs (by standards of NCHE) the university would have to reduce enrolment to 32,280 students, a reduction of about 4000 students.

A reduction in student enrolment seems to be the easiest option to the university under the pressure of attaining desirable standards of SSRs as by the NCHE. This is a balancing act in light of the low enrolment levels the country is facing in higher education. At the current rates of 9% Gross Enrolment Ratios, the country is far below the Sub Saharan African ratios of 16% and the world average of 35% (2015 World Bank Data). Every country is striving for higher Gross Enrolment Ratios in tertiary education to sniff the benefits of knowledge economies. The demand for university places is very high within the country as the enrolment capacity in the close to 40 universities in Uganda is extremely rigid.

In light of the limitation to expanding enrolment imposed by human resource constraints, the university is obliged to consider enhancement of open distance and e-learning (ODEs) as an alternative offering mode.

Amongst academic staff, the percentage of female was 27% with 395 female staff of the 1461 academic staff. The university had 96 professors (8 female) representing 7% of the university staff. The number of professors has almost doubled from 53 in 2008 to 96 in 2016; that of Teaching Assistants has reduced to 10% of the original, from 246 to 29 Teaching Assistants in the same period. This is indicative of improved career progression over the period of the University current strategic plan (2015-2020) as well as improved staff development policies. About 700 academic staff had PhDs by November 2018 representing 72% of all senior academic staff (at the rank of lecturer and above).

	MASTERS	PHD	Total	PhD Proportion
CAES	49	118	167	0.706586826
CEDAT	80	52	133	0.390977444

CEES	55	42	99	0.424242424
CHS	181	98	293	0.33447099
CHUSS	120	132	255	0.517647059
COBAMS	57	43	100	0.43
COCIS	49	32	86	0.372093023
CONAS	55	80	140	0.571428571
COVAB	35	47	89	0.528089888
JINJA	7	1	11	0.090909091
SLAW	25	14	41	0.341463415
Total	713	659	1414	

Computer to Student Ratios

Computers are considered very important inputs in the process of teaching and learning. The National Council for Higher Education (NCHE) recommended computer to student ratio is one computer to five students. In the College of Computing and Information Sciences (COCIS), there is the required number of computers for the students. In addition, it is a requirement in the College that second and third year students own laptop computers. Students can access the WIFI network anywhere on campus.

The worst student to computer ratio is in the School of Law. Efforts are underway to deal with this situation.

Financial resources and areas for resource mobilisation- including research grants in number and volume

COLLEGE	USD	EUROs	POUNDS	NOK	Canadian Dollars	SEK	UGX
Central - DRGT	40,000,000						
CAES	3,101, 906	1,893,198					2,759,791,333
CoBAMS	482,343.88						
CoCIS	5,523,500	660,184		390,000	102,000	29,653,144	

CEES	3,459,915.55	2,170,675					12,744,642,516
CEDAT	109,373,344	1,020,700	454,040	2,208,743			25,000,000,000
CHS	383,620,763		6,609,336	6,669,000	200,000		
CHUSS							70,605,891
CoNAS	4,461,247						90,600,000
CoVAB							3,399,000,123
S.LAW	1,129,484						

Key outputs from the activities of the College/Unit Annualised)

(a) Research Publications

The number of publications indexed by Scopus grew from 620 to 834 between year 2012 and year 2015, and is currently estimated to be about 1000 publications per year. It should be noted however that a good proportion of publications are not indexed by citation indices. Of the publications between 2012 – 2017, by far most of them were in the discipline of medicine (47%), followed by Agricultural and Biological Sciences (13%), Biochemistry, Genetics and Molecular Biology (8.9%), Social Sciences (8.8%) and Immunology and Microbiology (8.5%). Thus, for Makerere University, sciences had the largest share of publications. By contrast, it was noted that in South Africa universities most publications are in the Law discipline.

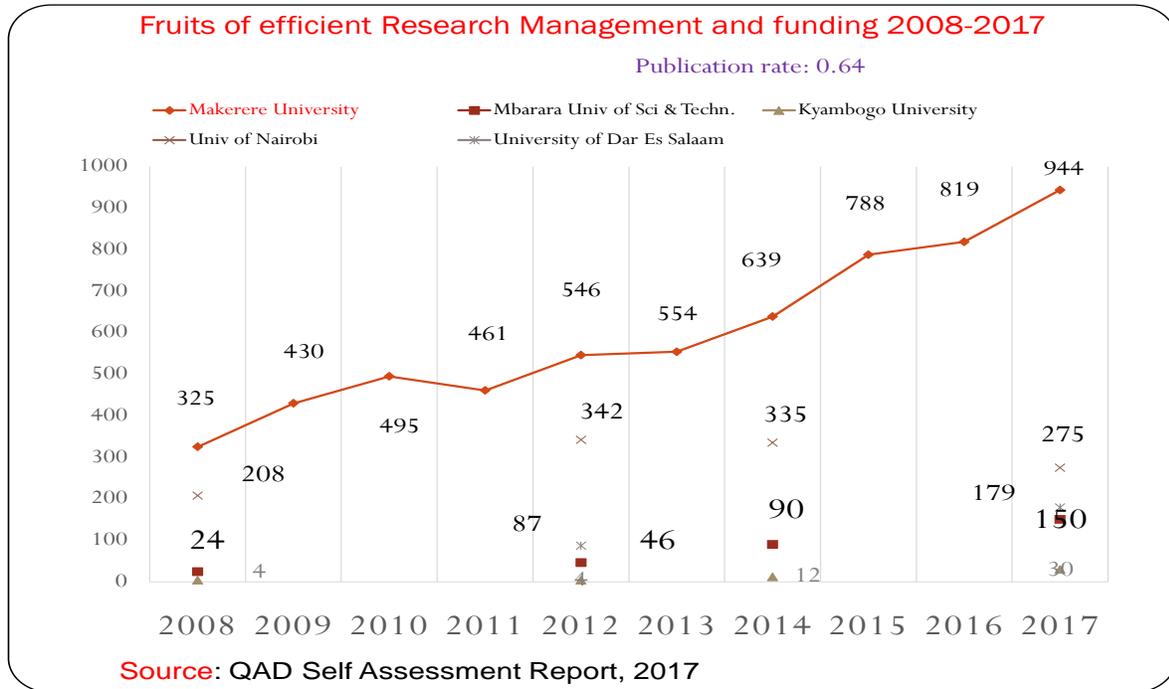


Figure 1: SCOPUS Research Publications by Subject Area

Table : Makerere Research 2010 -2018

	SUBJECT AREA	No. Publications	Percentage
1	Medicine	3441	39.5%
2	Agricultural and Biological Sciences	1039	11.9%
3	Immunology and Microbiology	702	8.1%
4	Social Sciences	686	7.9%
5	Biochemistry, Genetics and Molecular Biology	624	7.2%
6	Environmental Science	405	4.7%
7	Computer Science	206	2.4%
8	Pharmacology, Toxicology and Pharmaceutics	168	1.9%
9	Engineering	155	1.8%
10	Psychology	147	1.7%
11	Veterinary	138	1.6%
12	Nursing	128	1.5%
13	Business, Management and Accounting	109	1.3%
14	Earth and Planetary Sciences	109	1.3%
15	Mathematics	98	1.1%
16	Arts and Humanities	95	1.1%
17	Economics, Econometrics and Finance	88	1.0%
18	Energy	61	0.7%
19	Chemistry	50	0.6%
20	Multidisciplinary	45	0.5%
21	Physics and Astronomy	39	0.4%
22	Neuroscience	36	0.4%
23	Health Professions	34	0.4%
24	Materials Science	34	0.4%

(b). Graduation Rates

The graduation rate helps to measure the “productivity” of university programmes. A modest graduation rate points to a mismatch between programme requirements and student expectations, to a certain misuse of public resources and, above all, a misuse of human capital.

When all things are equal, one should expect the graduation rates to be at 100%. This means that all students admitted to a particular program should be able to graduate at the end of their

25	Chemical Engineering	26	0.3%
26	Dentistry	22	0.3%
27	Decision Sciences	16	0.2%
	Total Publications	8701	

study period. In reality this does not normally happen as many factors tend to come into play and, in most times, slow

down the progression rate of some students or even stop the progression altogether. Some of these factors may be financial (say the lack of tuition), academic (failure of some of the courses), health and otherwise social.

On the other hand, extremely high graduation rates do not always mean that the quality of the provision is high. Moderate graduation rates might reflect a rigorous curriculum and a high level of quality control. The graduation rates presented in the figures below are computed as the number of graduates in a given program divided by the number of students admitted in that cohort for the specific program. The average graduation rate is computed over for the data of 3 consecutive cohorts.

Over the past 5 years, the number of students graduating has been increasing slightly and remained proportionate with those that are admitted indicating reasonable throughput on part of the university.

Makerere University registered a remarkable increase in the number of students graduating with PhDs and a slight decrease for Master and Postgraduate Diplomas compared to 2015 and 2016.

Table : Projected PhD Graduation per year per College

COLLEGE	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CAES	10												
CEDAT	4												
CEES	8												
CHS	19												
CHUSS	4												
COBAMS	4												
COCIS	2												
CONAS	10												

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COVAB	4												
LAW	1												
MUBS	11												
TOTAL	77												