

The background of the slide is a light gray gradient, decorated with several realistic water droplets of various sizes and positions. Some droplets are at the top left, some are scattered in the middle, and a large, prominent one is at the bottom right. The droplets have highlights and shadows, giving them a three-dimensional appearance.

PHD TRAINING AS A PILLAR IN UGANDA'S ECONOMIC AND SUSTAINABLE DEVELOPMENT

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PERSPECTIVES

Africa

- HOME TO 1.4 B PEOPLE (15% OF THE WORLD POPULATION);
 - INDIA: 1.406B; CHINA 1.414B;
- TERTIARY ENROLMENT:
 - SUB-SAHARAN AFRICA AT 8% (WB);
 - UGANDA 6.8%
 - WITH WORLD AVERAGE OF 36%
 - INDIA: 24%; CHINA: 40%; OECD: 72%; KOREA REP 93%;
- RESEARCH CONTRIBUTION AT 7%;

KNOWLEDGE PRODUCTION

- KNOWLEDGE PRODUCTION IN AFRICA IS ON THE RISE!!!
- AFRICA PRODUCED **7.6%** OF ALL SCIENCE RESEARCH AND **30%** OF THE WORLD TROPICAL MEDICINE RESEARCH;
- COMPARED TO THE **508,102** AFRICAN SCIENTIFIC PUBLICATIONS FROM **2001-18**, THE REST OF THE WORLD PRODUCED **6,688,920** PUBLICATIONS;
- LIKELY TO CONTINUE RISING;
- MUCH OF THE TIME NO ONE IS TRACKING;

WORLD RESEARCH PRODUCTION

- AFRICA PRODUCES ABOUT 7.8% OF WORLD RESEARCH;
- RESEARCH PRODUCTION IN AFRICA IS UNDERDOCUMENTED;
- THE LATE KOFI ANNAN HAD PROPOSED A PROJECT TO DIG INFORMATION ON THE GREY RESEARCH IN AFRICA;
World Research Output

HIGH KNOWLEDGE PRODUCTION COUNTRIES IN AFRICA

- AMONG THE TOP 10 HIGH-PRODUCING COUNTRIES IN SCIENCE IN AFRICA THERE WERE SIX SUB-SAHARAN COUNTRIES, NAMELY;
- SOUTH AFRICA, UGANDA, NIGERIA, KENYA, ETHIOPIA AND TANZANIA.

THE UGANDAN LANDSCAPE

- UNIVERSITIES IN UGANDA GREW FROM THREE UNIVERSITIES IN 1989 (MAKERERE UNIVERSITY, THE ISLAMIC UNIVERSITY IN UGANDA AND MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY) TO 53 IN 2022.
- ENROLMENT IN UNIVERSITIES IN UGANDA GREW FROM ABOUT 10 000 STUDENTS IN 1990 TO MORE THAN 200 000 STUDENTS IN 2022.

IN EVERY A MILLION PEOPLE IN UGANDA

In every a Million People

Primary Students	177,778
Secondary Students	28,889
Students	222,222
University Students	4000
PhD Holders	44
HE Students	6,667

LIBERALISATION OF HIGHER EDUCATION

- WITH THE INTRODUCTION OF NEW UNIVERSITIES, UGANDA'S HE SYSTEM BECAME MORE DIVERSE AND COMPLEX, PARTLY DUE TO THE GROWTH IN THE NUMBER OF PUBLIC AND PRIVATE INSTITUTIONS AND MULTIPLE STAKEHOLDERS WITH DIVERGING INTERESTS;
- HUMAN RESOURCES WERE REDISTRIBUTED TO SUPPORT THE ELASTIC CHANGE IN HIGHER EDUCATION PROVISION WITH EXISTING INSTITUTIONS SECEDING HUMAN RESOURCES TO NEWLY CREATED ONES;

MINIMAL REGULATIONS FOR RESEARCH

- ONLY MINIMAL MENTION OF RESEARCH IN UNIVERSITIES IN THE RANGE OF CRITERIA FOR REGULATING UNIVERSITIES AND OTHER TERTIARY INSTITUTIONS.
- MORE PHDS WERE REQUIRED TO SUPPORT THE HIGHER EDUCATION SYSTEM;
- THE CURRENT ENROLMENT AT UNIVERSITIES REQUIRES MORE THAN 3600 PHDS;
- UGANDA HAD ABOUT 1000 ACTIVE PHDS IN 2010 AND THIS HAS INCREASED TO 2200 IN 2020;

PHD PRODUCTION STIFLED

- PHD PRODUCTION CAPACITY IS STIFLED WITH ABOUT 100 PHDS PER YEAR;
- MOSTLY PRODUCED AT MAKERERE UNIVERSITY;
- PHD PRODUCTIVITY IS COUPLED WITH RESEARCH PRODUCTIVITY IN WAYS MORE THAN ONE:
 - AT MAKERERE EVERY PHD STUDENT IS REQUIRED TO HAVE 2 PUBLICATIONS;
 - WHILE THE SUPERVISION OF PHDS TO COMPLETION IS AN INCENTIVE FOR PROMOTION;
 - SENIOR LECTURESHIP IS REQUIRED FOR SUPERVISION OF PHDS;

- A PHD IS REQUIRED FOR LECTURESHIP AT MAK WHEREAS PHD NORMAL PROGRESS IS A MINIMUM FOR ASSISTANT LECTURESHIP;
- PHD TRAINING IS EXPECTED TO LAST THREE TO FIVE YEARS;
- SUPERVISORS ARE TRAINED AND A CERTIFICATE AWARDED AFTER THE TRAINING;
- THE NUMBER OF PHDS GRADUATING IN A YEAR INCREASED FROM 30 IN 2009 TO 100 IN 2021

- THERE WAS A SIGNIFICANT INCREASE IN THE NUMBER OF RESEARCH PUBLICATIONS BY ACADEMIC STAFF, AS INDEXED BY THE WEB OF KNOWLEDGE DATABASE, UP FROM 325 PUBLICATIONS IN 2008 TO 1400 IN 2021;
- THIS TREBLED THE RATE OF PUBLICATIONS FROM 0.32 PUBLICATIONS PER ACADEMIC STAFF PER YEAR IN 2008 TO 1 PUBLICATIONS PER ACADEMIC STAFF PER YEAR IN 2021.

POLICIES THAT SUSTAIN PHD PRODUCTIVITY

- THE NUMBER OF STAFF WITH PHDS INCREASED FROM 469 IN 2008 TO 2200 IN 2022.
- SINCE THE YEAR 2000, MAKERERE UNIVERSITY HAS HAD A REQUIREMENT THAT EVERY LECTURER HOLD A PHD DEGREE.
- EXCEPTIONS ARE THE CLINICAL MEDICINE DISCIPLINES AND THOSE LECTURERS WHO WERE ALREADY SERVING IN THE UNIVERSITY SYSTEM IN 2000.
- THE NCHE HAS MODIFIED THE REQUIREMENT FOR A PHD IN UNIVERSITIES TO ALLOW FOR THE HIRING OF REGISTERED PHD STUDENTS WHO ARE PROGRESSING NORMALLY.

NOT ENOUGH PHDS IN UGANDA

- THE MODIFICATION TO THE PHD REQUIREMENT WAS COMPELLED BY THE DIFFICULTIES OF ATTAINING A SUFFICIENT NUMBER OF PHDS.
- IT IS ESTIMATED THAT UGANDA HAS ABOUT 2 200 PHDS, AMIDST A REQUIREMENT FOR OVER 10 000 PHDS (UNCST 2011). THE CURRENT PHD DEFICIT IS OVER 8,000 PHDS.
- THIS DEFICIT CANNOT BE COVERED WITH THE CURRENT PRODUCTION RATE OF ABOUT 100 PHDS PER YEAR;

STAFF APPOINTMENTS AND PROMOTION POLICIES

- THE MAKERERE UNIVERSITY APPOINTMENTS AND PROMOTION POLICY REQUIRES ACADEMIC STAFF TO PUBLISH A SET NUMBER OF PUBLICATIONS (IN PEER-REVIEWED JOURNALS) FOR APPOINTMENT OR PROMOTION TO THE DIFFERENT CATEGORIES IN THE ACADEMIC STAFF ESTABLISHMENT.
- FOR INSTANCE, TO BE PROMOTED FROM LECTURER TO SENIOR LECTURER, ONE NEEDS THREE PUBLICATIONS, WHEREAS FIVE EXTRA PUBLICATIONS ARE REQUIRED TO MOVE TO THE SUBSEQUENT LEVEL, IN ADDITION TO TEACHING EXPERIENCE AND SERVICE TO THE COMMUNITY.
- THE PROMOTION POLICY IS ONE OF THE FUNDAMENTAL DRIVERS IN MOTIVATING THE PRODUCTION OF PUBLICATIONS, AS PROMOTION CARRIES MONETARY INCENTIVES.

PROMOTION REQUIRES SUPERVISION OF STUDENTS

- THE APPOINTMENTS AND PROMOTION POLICY REQUIRES THE SUPERVISION OF GRADUATE STUDENTS TO COMPLETION (A VARIED MIX OF MASTERS AND PHDS) FOR SENIOR ACADEMIC POSITIONS IN THE UNIVERSITY ESTABLISHMENT.
- FOR INSTANCE, TO BE PROMOTED TO THE LEVEL OF ASSOCIATE PROFESSOR, ONE IS REQUIRED TO HAVE SUPERVISED AT LEAST ONE PHD STUDENT UP TO COMPLETION. THIS IS IN ADDITION TO OTHER REQUIREMENTS SUCH AS PUBLICATION IN PEER-REVIEWED JOURNALS.

SUPERVISIONS OF PHDS

- ONLY SENIOR LECTURERS MAY SUPERVISE PHD STUDENTS. THE SUPERVISION REQUIREMENT HAS SUPPORTED THE ACCEPTANCE OF SUPERVISORY ROLES BY ACADEMIC STAFF FOR MORE THAN ONE REASON.
- IRONICALLY, IT IS NOT DIRECTLY FINANCIALLY LUCRATIVE TO SUPERVISE STUDENTS AS VERY LITTLE EXTRA PAY IS ASSOCIATED WITH THE EFFORT THAT GOES INTO THE ACTIVITY.
- THE COMPLETION RATES AT PHD LEVEL ARE VERY LOW AND THERE ARE NO GUARANTEES AND ONE COULD EASILY END UP WITH EMPTY HANDS;
- GRADUATE TRAINING IS CURRENTLY BROADLY FOR FEE-PAYING STUDENTS. IN THE 1980S, AND BEFORE, ALL UNIVERSITY EDUCATION WAS FREE;

INCREASING COSTS FOR THE PHD

- STUDENTS NOW STRUGGLE TO COVER COSTS AMIDST INCREASING COSTS OF EDUCATION. THE COST OF A PHD IN UGANDA AVERAGES AROUND USD 50 000.
- IT IS NOT SURPRISING THAT STUDENTS WILL OPT FOR PHDS THAT OFFER THE BEST OPPORTUNITY FOR TIMELY COMPLETION, AS WELL ENGAGEMENT AFTER THE DOCTORAL STUDIES;
- QUITE OFTEN DEVELOPMENT FUNDERS AVAIL SCHOLARSHIPS IN CHOSEN AREAS OF STUDY.

PUBLICATIONS FROM PHD THESES

- AT MAKERERE UNIVERSITY EVERY PHD STUDENT IS REQUIRED TO PUBLISH TWO RESEARCH PUBLICATIONS IN PEER-REVIEWED SCIENTIFIC OR SCHOLARLY JOURNALS BEFORE THEY CAN GRADUATE;
- IN ALL THE ABOVE-MENTIONED POLICIES, THESE PUBLICATIONS ARE A COMMON CURRENCY TO ASSESS PERFORMANCE – BOTH PRODUCTIVITY AND QUALITY;
- THE QUALITY DIMENSION IS CONNECTED TO THE *PEER REVIEW PROCESS APPLIED BY THESE JOURNALS* TO ASSESS SUBMITTED MANUSCRIPTS.
- AS IT IS OFTEN DIFFICULT TO DETERMINE THE QUALITY OF A RESEARCH PUBLICATION, FOR ANY SET OF PUBLICATIONS SUBMITTED FOR DIFFERENT ADMINISTRATIVE CONSIDERATIONS, A NUMBER OF EXPERT COMMITTEES ARE REQUIRED TO ASSESS THE SUBMITTED PUBLICATIONS FOR THE ASSOCIATED PURPOSE.

RESEARCH FUNDING

- THE LONG-TERM RESEARCH ARRANGEMENTS HAVE SUPPORTED THE BUILDING OF INSTITUTIONAL CAPACITY TO DO RESEARCH BY SUPPORTING PHD TRAINING.
- THESE COLLABORATIONS WITH FOREIGN PARTNERS AND FUNDERS HAVE ALSO HELPED NETWORKING RESEARCHERS WHO WOULD OTHERWISE BE ISOLATED.
- IT IS ESTIMATED THAT MORE THAN 50% OF THE PHDS OBTAINED BETWEEN THE YEAR 2000 AND THE YEAR 2010 WERE ACQUIRED FROM OUTSIDE UGANDA, WITH SUPPORT FROM DEVELOPMENT PARTNERS.
- THE UTILISATION OF THE 'SANDWICH MODE' OF TRAINING, WHERE THE STUDENT HAS SUPERVISORS FROM ALL COUNTRIES PARTNERING IN THE PROJECT;

WHOSE RESEARCH?

- FOR INSTANCE, IN THE PERIOD 2008–2016, ABOUT 40% OF THE RESEARCH INDEXED IN MAJOR DATABASES WAS IN MEDICINE, WITH AN ADDITIONAL 8% IN IMMUNOLOGY AND MICROBIOLOGY.
- WHEREAS HEALTH SCIENCES AND ATTENDANT PROBLEMS ARE KEY TO UGANDA'S ECONOMY, AGRICULTURE IS THE MAINSTAY OF THE ECONOMY, EMPLOYING 40% OF THE LABOR FORCE AND GENERATING 25% OF THE COUNTRY'S GDP.
- RESEARCH IN AGRICULTURE AND BIOLOGICAL SCIENCES ONLY ACCOUNTED FOR ABOUT 12% OF THE TOTAL VOLUME OF RESEARCH DURING THE PERIOD.
- COMPETITIVE CALLS FOR RESEARCH FUNDING, WHICH EMANATE FROM FUNDING AGENCIES IN THE WESTERN COUNTRIES, ARE TYPICALLY THEMATIC WITH THEMES ALIGNED TO THE INTENTIONS OF THE FUNDER.

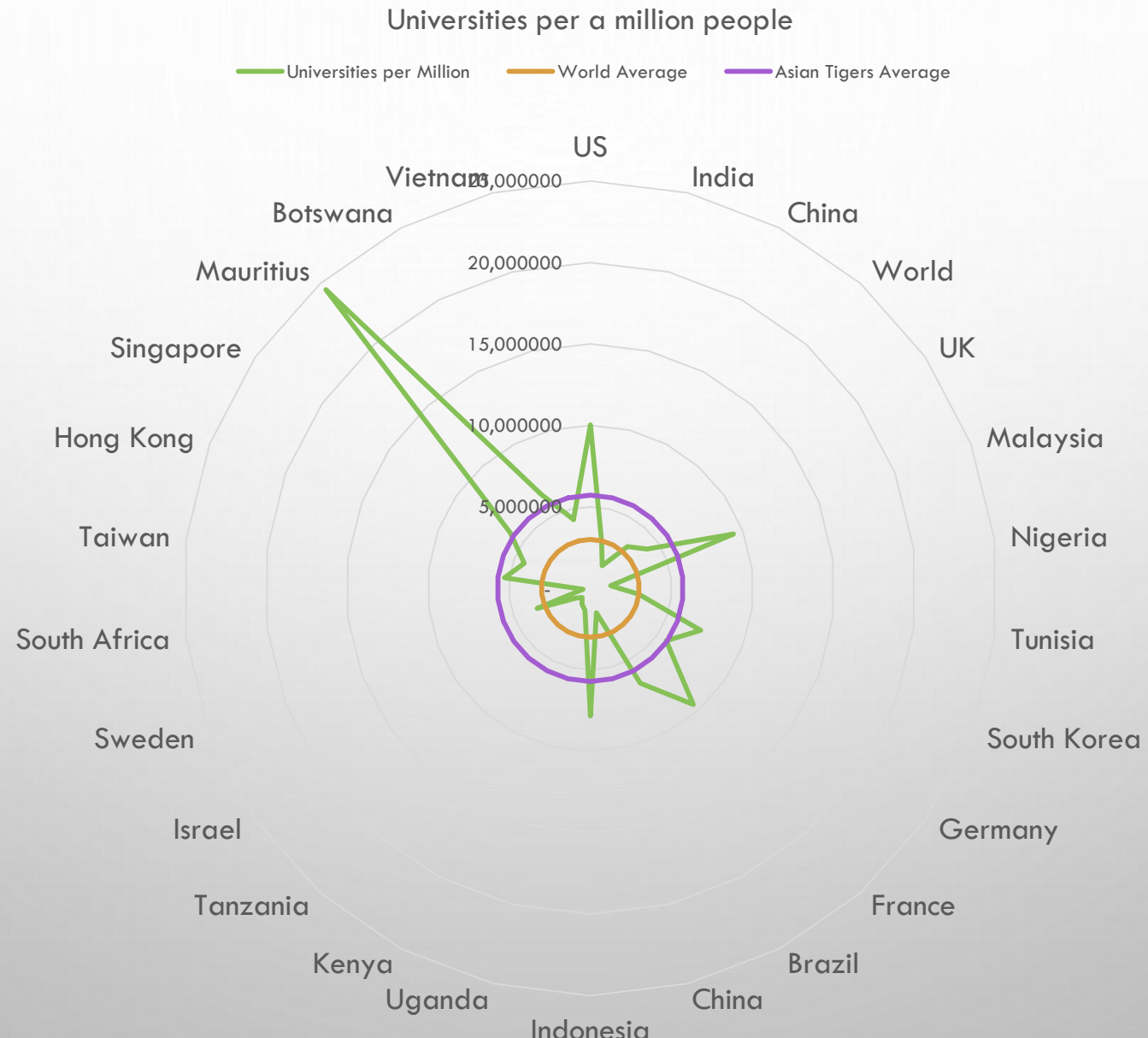
- THE RULE OF THUMB IS FOR THERE TO BE SUFFICIENT OVERLAP IN THE ASPIRATIONS OF THE PARTNERING INSTITUTIONS IN THE FUNDING COLLABORATIONS.
- TO EXACERBATE THE PROBLEM, CAPACITY-BUILDING RESEARCH HAS TENDED TO BIAS THE CAPACITY TOWARDS THE SAME AREAS OF WESTERN PRIORITY, WHICH NOW PUSHES THE PROBLEM OF MISALIGNMENT TO THE DISTANT FUTURE.
- ABOUT 40% OF MAKERERE RESEARCH OUTPUT FOR THE PERIOD 2008–2016 (3 441 PUBLICATIONS) WAS IN THE GENERAL SUBJECT AREA 'MEDICINE', WITH AN EXTRA 8% (702 PUBLICATIONS) IN THE AREA 'IMMUNOLOGY AND MICROBIOLOGY'.
- INDEED, MOST OF THE FUNDING IN RESEARCH IS CONCENTRATED IN MAKERERE'S COLLEGE OF HEALTH SCIENCES. SOME DEVELOPMENT PARTNERS HAVE RECOGNISED THE POSSIBLE HARMFUL EFFECTS OF THIS BIAS AND THEREFORE RELAXED FUNDING REQUIREMENTS THAT ARE NOW ALSO TARGETED TOWARDS INSTITUTIONAL CAPACITY BUILDING, AS WELL AS SUPPORTING THE RESEARCH AGENDA OF THE UNIVERSITY.
- THE DESIGNATION OF THE SUSTAINABLE DEVELOPMENT GOAL (SDG) 3 (ON HEALTH AND WELL-BEING) HAS BOLSTERED THIS ARRANGEMENT. A PROLIFERATION OF INTERESTS IS HEAVILY EMBEDDED IN THIS SDG AND IS LIKELY TO OUTWEIGH ALL SDGS IN TERMS OF INVESTMENTS;

- CURRENTLY THERE ARE LESS THAN 50 RESEARCHERS PER ONE MILLION PEOPLE IN UGANDA, COMPARED WITH MORE THAN 7 000 RESEARCHERS PER ONE MILLION PEOPLE IN SWEDEN AND OVER 8 000 PER ONE MILLION PEOPLE IN ISRAEL.
- RAISING THIS LOW BASE REQUIRES ADDRESSING SEVERAL INSTITUTIONAL, LOGISTICAL AND INFRASTRUCTURAL OBSTACLES AT VARIOUS LEVELS THROUGHOUT THE UGANDAN EDUCATIONAL SYSTEM.

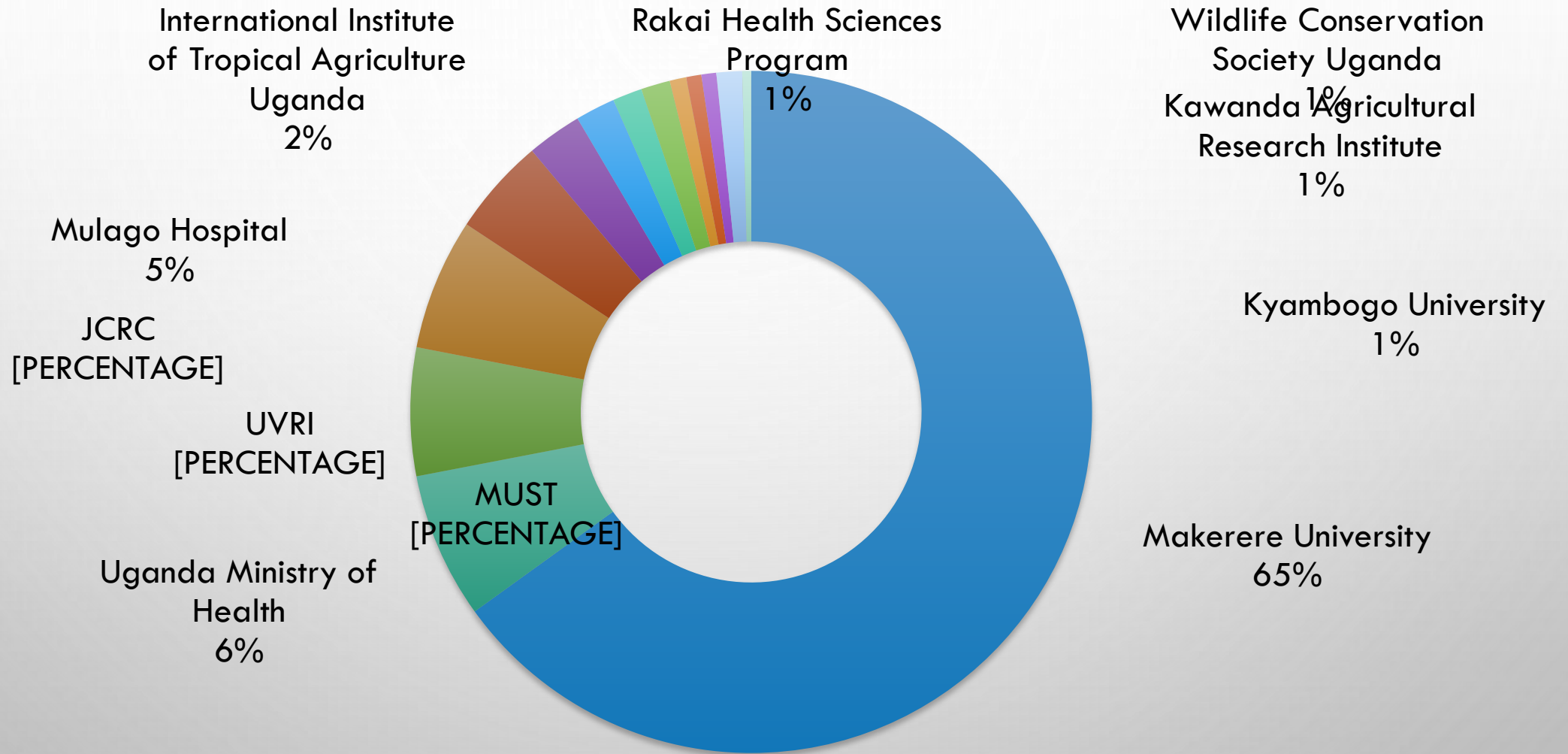
CRITICAL INTERVENTIONS

- FUNDING FOR PHDS;
- ARTICULATION OF RESEARCH AGENDA;
- CURRICULUM FOR PHDS;
- SUPERVISION ISSUES;
- PROGRESSION TRACKING;

UNIVERSITIES PER ONE MILLION PEOPLE



WHO DOES RESEARCH IN UGANDA



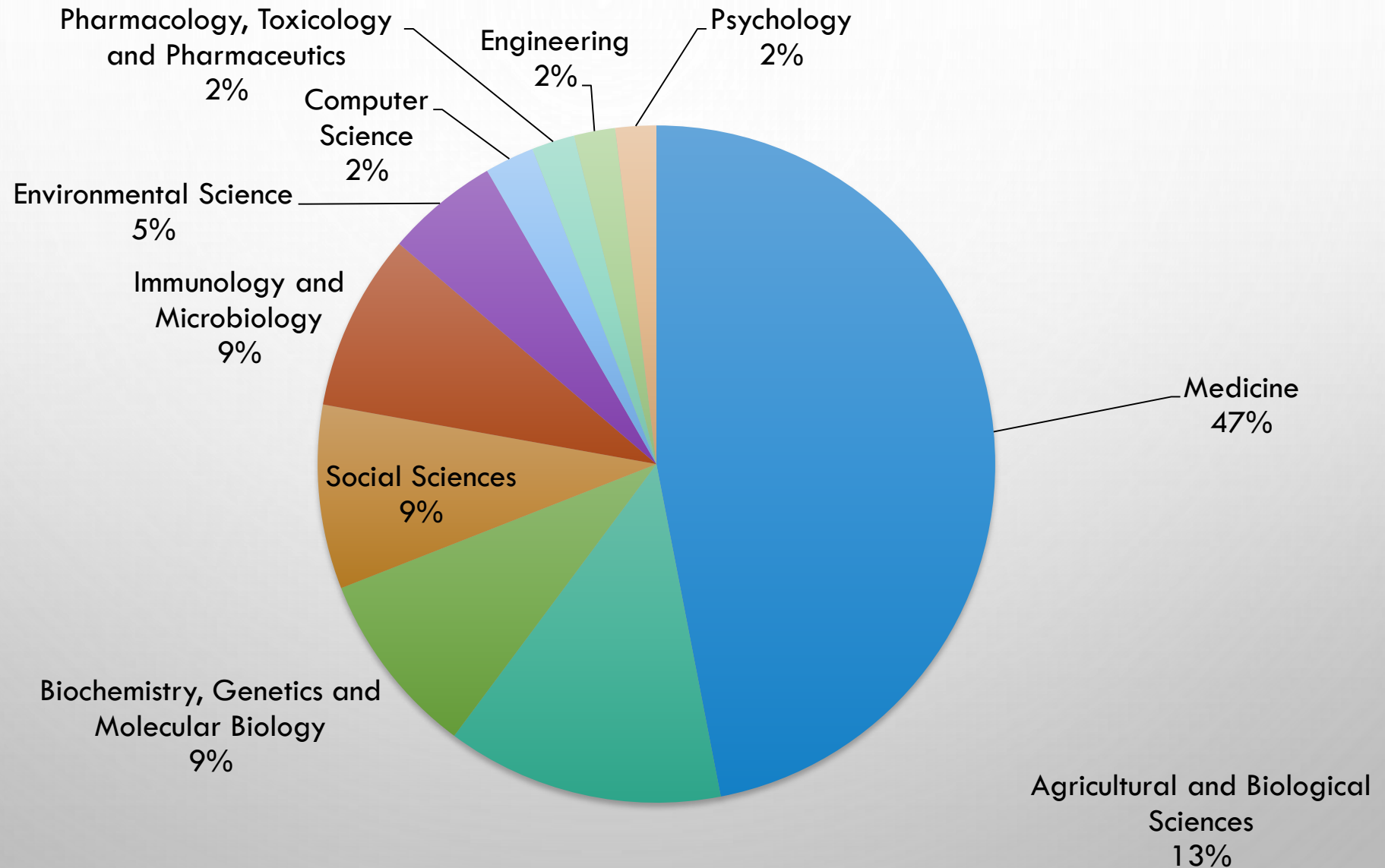
MAKERERE UNIVERSITY PHD PRODUCTION 2000-2020



PHD PRODUCTIVITY

- HERANA STANDARD: 0.3 OF THE STAFF WITH PHDS; WITH 860 PHDS THE UNIVERSITY SHOULD BE GRADUATING 258 PHD STUDENTS PER YEAR;

SHARE OF TOP TEN MAKERERE PUBLICATIONS (2014-2019)



MAPRONANO – AFRICAN CENTER OF EXCELLENCE

- CENTER DIRECTOR: JOHN BAPTIST KIRABIRA;
- MATERIALS PRODUCT DEVELOPMENT AND NANOTECHNOLOGY;
- COLLEGE: CEDAT;
- AMOUNT OF FUNDING: 6 MILLION USD;
- FOUR YEAR PROJECT ENDING 22/23;
- INNOVATIONS: DIESEL ENGINE, PREGNANCY TEST KITS, DRINKING WATER TEST KITS; CLASSICAL MECHANICAL CURE OF HIV/AIDS; CANCER TREATMENT USING CONTRAST AGENTS;
- PHD STUDENTS: 35
- MASTERS: 158;
- CURRICULUM: MSC. NANO TECHNOLOGY AND MSC. NANOMEDICINE;

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MAKERERE REGIONAL CENTER FOR CROP IMPROVEMENT

Makerere University

Regional Center for Crop Improvement (MaRCCI)



RELEVANCE OF PHD TRAINING

- LINK TO NATIONAL, REGIONAL AND INTERNATIONAL AGENDA
- SUSTAINABLE DEVELOPMENT PROGRAM (SDGS);
- AFRICAN DEVELOPMENT AGENDA 2063;
- UGANDA VISION 2040;
- ACTIVATING THROUGH UNIVERSITY RESEARCH AGENDA;

RELEVANCE

■ SUSTAINABLE DEVELOPMENT GOALS:

- **END EXTREME POVERTY IN ALL FORMS BY 2030;**
- **END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE;**
- **ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES;**
- **ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL;**
- **ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS;**
- **ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL**
- **ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL;**

RELEVANCE - SDGS

- PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL;
- BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION;
- REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES;
- MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE;
- ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS;
- TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS;
- CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT;

SDGS CONTINUED

- PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS;
- PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS;
- STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT;

AGENDA 2063

- BY 2063, AFRICAN COUNTRIES WILL BE AMONGST THE BEST PERFORMERS IN GLOBAL QUALITY OF LIFE MEASURES.
- THIS WILL BE ATTAINED THROUGH STRATEGIES OF:
 - INCLUSIVE GROWTH;
 - JOB CREATION;
 - INCREASING AGRICULTURAL PRODUCTION;
 - INVESTMENTS IN SCIENCE, TECHNOLOGY, RESEARCH AND INNOVATION;
 - GENDER EQUALITY;
 - YOUTH EMPOWERMENT;
 - PROVISION OF BASIC SERVICES INCLUDING HEALTH, NUTRITION, EDUCATION, SHELTER, WATER AND SANITATION.

VISION 2040: A TRANSFORMED UGANDAN SOCIETY FROM A PEASANT TO A MODERN AND PROSPEROUS COUNTRY WITHIN 30 YEARS

- **THEME: “ACCELERATING UGANDA’S SOCIOECONOMIC TRANSFORMATION”.**
 - (A) INDEPENDENCE AND SOVEREIGNTY;
 - (B) DEMOCRACY AND THE RULE OF LAW;
 - (C) STABILITY AND PEACE;
 - (D) **KNOWLEDGEABLE AND SKILLED;**
 - (E) **ABLE TO EXPLOIT AND USE ITS RESOURCES GAINFULLY AND SUSTAINABLY;**
 - (F) IN A STRONG FEDERATED EAST AFRICA WITH AN EFFECTIVE AFRICAN COMMON MARKET AND A STRONG AFRICAN DEFENCE MECHANISM.

A LEADING COFFEE PRODUCER

	Country	Metric Tonnes
1	Brazil	2,652,000
2	Vietnam	1,650,000
3	Colombia	810,000
4	Indonesia	660,000
5	Ethiopia	384,000
6	Honduras	348,000
7	India	348,000
8	Uganda	288,000
9	Mexico	234,000
10	Guatemala	204,000

PRODUCTION OF BANANAS

Rank	Country	Tonnes	Production Value
1	India	29,666,973	\$8,355,139,000
2	Uganda	12,000,000	\$3,107,962,000
3	China	10,400,000	\$2,928,962,000
4	Philippines	9,165,043	\$2,323,044,000
5	Ecuador	7,427,776	\$2,091,891,000
6	Brazil	7,329,471	\$2,064,206,000
7		6,132,695	\$1,727,157,000

ISSUES AND CHALLENGES

- PHDS IN SHORTAGE IN UGANDA: THE CURRENT DEFICIT IS AT 1600 PHDS;
- PITCHED AT 500 SCIENTISTS FOR EVERY 1 MILLION PEOPLE 20,000 PHDS;
- THE CAPACITY TO PRODUCE PHDS IS (AT 0.6 BY 2200) 132 PHDS PER YEAR;
- THE COST PER PHD IS AT LEAST USD 50,000;
 - OUT OF REACH FOR MOST UGANDAS;
- HIGHER EDUCATION ENROLMENT IS TARGETED TO PHDS BY NCHE;
- MAKERERE UNIVERSITY WILL CONTINUE PRODUCING ABOUT 90% OF UGANDA'S PHDS;
- ENROLMENT OF PHDS AT MAKERERE IS ABOUT 1200;

PHD ISSUES AND CHALLENGES

- STUDENT TRACKING AND PROGRESS MONITORING REQUIRED;
- COMPLETION RATE (ABOUT 0.5) NEED IMPROVEMENT;
- SUPERVISION TRAINING REQUIRED;
- INSTITUTIONAL INFRASTRUCTURE AND FACILITIES NEED IMPROVEMENT;
- CURRICULUM FOR PHD IS DRIFTING TOWARDS TAUGHT PHDS – MORE IS REQUIRED;

• END