

MAKERERE UNIVERSITY RESEARCH AND INNOVATIONS FUND

BI-ANNUAL BULLETIN

Issue 3: July - December 2024





About Mak-RIF

With funding from the Government of Uganda, Makerere University Research and Innovations Fund (Mak-RIF) is supporting cutting-edge research and innovations solutions that contribute to Uganda's development. The initiative was established in 2019 and has to date funded 1,337 multidisciplinary research and innovation projects focusing on priority issues of national importance jointly identified with policymakers.

Mak-RIF is governed by a multi-sectoral Grants Management Committee (GMC) chaired by Prof. Fred Masagazi-Masaazi. The GMC guides the implementation of all the Mak-RIF activities and was appointed by Makerere University's Vice Chancellor after wide consultations with all the University Colleges.

Mandate

To support high impact research and innovations that inform national development priorities.

Goal

To increase the local generation of translatable research and scalable innovations to drive Uganda's development agenda.

Objectives

- To develop and fund a robust research agenda based on National development priorities identified by academia, government, implementing partners, and industries.
- To support the dissemination of high-quality research and innovations in a way that influences development policies and programs.
- To support the growth of research leadership capacity in the university.

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Vice Chancellor's Message

Makerere University stands at a pivotal moment in its history. Our pursuit of academic excellence, groundbreaking research, and impactful community engagement continues to shape the trajectory of this prestigious institution.

The Government of Uganda funds research at Makerere University through a Research and Innovations Fund (Mak-RIF) to support cutting-edge solutions that contribute to Uganda's development. Since its inception, Mak-RIF has to date funded 1,337 projects focusing on priority issues of national and regional importance. Mak-RIF has also expanded its scope of work to include support for the commercialization of research and innovations and has forged partnerships with government entities to increase research utilization in policy decisions.

Mak-RIF also supports research management capacity development in other public universities and has so far conducted training for Busitema, Soroti, Muni, and Kyambogo Universities. To date, at least 157 of 578 completed MakRIF projects have a tangible product ready to be integrated into the national economy.

Mak-RIF is at the forefront of national science exhibitions and is now mooting a strategy, in collaboration with UNDP, to develop a registration and tracking system for all innovations in Uganda. It is my firm belief that our greatest asset is our people — the talented and diverse community of scholars, researchers, students, and staff who embody the spirit of Makerere and are dedicated towards building for the future.

Furthermore, I extend my deepest appreciation to the Government of Uganda which has greatly contributed to Makerere's transformative research and innovations thus far.

This support ensures that Makerere is well-positioned to continue our mission of providing transformative and innovative research responsive to dynamic national and global needs.

Prof. Barnabas Nawangwe VICE CHANCELLOR

Foreword

Makerere University: Advancing Knowledge, Innovation, and National Development

Makerere University has long stood as a beacon of knowledge, research, and leadership on the African continent. With a steadfast commitment to transformative



and innovative teaching, learning, research, and service, the University continues to respond dynamically to both national and global needs. Through the Makerere University Research and Innovations Fund (Mak-RIF), we are spearheading impactful research and innovations that align with our vision of becoming a research-led institution, while making significant contributions to Uganda's development.

It is with immense pride and pleasure that I welcome you to Mak-RIF's half-year bulletin. This publication captures our collective achievements, ongoing initiatives, and forward-looking strategies, underscoring the progress we have made in generating translatable research and scalable innovations. These efforts address critical gaps essential to advancing Uganda's development agenda.

At Makerere University, we continually adapt to meet the evolving demands of society, the economy, and the global community. Through research and innovation, we have cultivated an environment that promotes creativity, critical thinking, and problem-solving to address societal challenges. This bulletin highlights the remarkable progress we have achieved, showcases key initiatives undertaken, and outlines the critical work ahead to support Uganda's growth and transformation.

The accomplishments featured in this bulletin are a testament to the dedication and hard work of Mak-RIF staff, researchers across all colleges, University leadership, and our valued stakeholders. I extend my heartfelt gratitude to everyone whose contributions have driven these successes. Together, we are building Makerere University into a center of academic excellence and a catalyst for positive societal change.

Looking ahead, Makerere University remains unwavering in its commitment to becoming a research-led institution and nurturing the next generation of innovators. These innovators will play a vital role in shaping our shared global future. Thank you for your continued support and dedication as we work together to build a brighter tomorrow.

Mrs. Lorna Magara
Chairperson, Makerere University Council

Launch of a Newly Revised Research and Innovations Agenda



Inset: Prof. Barnabas Nawangwe, Vice Chancellor Makerere University working with Prof. Fred Masagazi Masaazi, Chairperson of the Mak-RIF Grants Management Committee, and Secretariat convened an engagement with representatives from Government Ministries, Departments and Agencies to review the Mak-RIF Research Agenda in August 2023.

To be highly relevant to national development priorities, the Mak-RIF implementation framework requires that the Grants Management Committee (GMC) develops an instructive research and innovation agenda to drive funding priorities. Mak-RIF's first research agenda was developed in 2019. There was a need to update the agenda to match with the changing national development context and realities, including emerging areas of programming and industry.

In October 2024, Mak-RIF launched a newly revised instructive research and innovations agenda as the basis for identifying funding priorities. The new research agenda contains 7 broad themes and 43 sub themes.

In the FY 2023/2024, the GMC conducted a review of the existing research agenda to update it with emerging issues of national importance. The GMC also conducted comprehensive stakeholder consultations to identify

priority emerging thematic areas of interest for national development. The consultations included meetings with representatives from key government sectors, semi-autonomous government agencies, the private-for-profit sector, and civil society.

The GMC triangulated this information with that from the National Development Plan III, the Makerere University Strategic Plan and Research Agenda, the Sustainable Development Goals, and the critical areas in the National Budget for FY2025/2026. The review was led by the GMC sub-committee on Research Agenda, headed by Prof. Robert Wamala, who is also the Director of the Directorate of Research and Graduate Training (DRGT).

Speaking about the significance of this new Research and Innovation Agenda, Prof. Wamala said, "This Research Agenda will, if harnessed by researchers and innovators, drive Uganda's socio-economic transformation."

The 7 themes and 43 sub themes of the newly revised research agenda are as follows.

THEME	SUB-THEMES
THEME 1: AGRICULTURAL TRANSFORMATION, FOOD SECURITY AND LIVELIHOODS	1.1 Transforming the agricultural sector to drive development 1.2 Agricultural and environmental policy and planning 1.3 Sustainable landscapes and human settlements 1.4 Livestock Farming and Animal Health
THEME 2: HEALTH AND WELL-BEING	2.1 Achieving Sustainable health to sustainable development 2.2 Healthcare Quality Improvement 2.3 Mental Health Services and Interventions 2.4 Introducing ICT in health service delivery 2.5 Infectious Disease, Zoonoses and Neglected Tropical Diseases (using one health approach) 2.6 Aging and Gerontology 2.7 Maternal, Child Health and Adolescent Health 2.8 Healthcare Innovation and Technology 2.9 Law, Policy and Governance
THEME 3: SCIENCE AND TECHNOLOGY	 3.1 Re-imagining Education to unlock capacity for economic development 3.2 Science Communication and Public Engagement 3.3 Emerging Technologies 3.4 Information science 3.5 Information Technology and Computer Science 3.6 Space Science and Exploration
THEME 4: NATURAL RESOURCES MANAGEMENT, URBANIZATION AND CLIMATE CHANGE	 4.1 Water Resource Management and Agricultural Sustainability 4.2 Environmental sustainability, climate change and resilience 4.3 Ecosystem Services and Biodiversity Conservation 4.4 Renewable Energy and Energy Efficiency 4.5 Energy and Minerals as drivers of rapid economic development 4.6 Urban Sustainability, smart cities and Climate Resilience
THEME 5: CULTURAL, HERITAGE AND CREATIVE ARTS	 5.1 Heritage Site Management and Planning 5.2 Public Engagement and Education 5.3 Digital Heritage and Virtual Reality 5.4 Indigenous knowledge systems 5.5 Art Practices and Management 5.6 Climate Change and Cultural Heritage 5.7 Heritage Tourism and Economic Development
THEME 6: GOVERNANCE, SOCIAL JUSTICE AND HUMAN RIGHTS	 6.1 Governance 6.2 Human Rights 6.3 Gender Justice 6.4 Law Reforms 6.5 Economic Justice 6.6 Disability Justice 6.7 Media Representation and Cultural Justice 6.8 Alternative Dispute Resolution
THEME 7: ECONOMIC GROWTH AND INNOVATION	7.1 Solutions to catalyse business and enterprise7.2 Economic modelling and policy analysis7.3 Works, manufacturing, science and technology as tools to accelerate development

Laying Strategies for College-Led Transformative Projects



Inset: Members of the Grants Management Committee (GMC), College Principals, and the Mak-RIF Secretariat pose for a group photo at the Makerere University Main Building after the meeting on 23rd October 2024.

Mak-RIF's Grants Management Committee Characteristics of college-led projects (GMC) has urged Principals of different Dr. Mayega noted that he college-led Colleges in Makerere University to identify transformative projects will speak an college-led projects that speak to national issue of national importance, have a development.

While speaking during a meeting between the GMC, College Principals, and the Mak-RIF secretariat which was held in Makerere on 23rd October 2024, Dr. Roy Mayega, the Secretary to the GMC, reminded participants about Mak-RIF's vision achievements and recognized that colleges play a critical leadership role in Target: 3-5 college-led projects will be realizing this vision. He also stressed the need to identify and support more highly transformative projects that meet the determine the transformative ones. country's development priorities.

"Mak-RIF was established to fund research and innovations that contribute to national transformation. Over the last 5 years, Mak-RIF has receieved approximately 130 Billion Shillings and 1,337 projects have been funded in all key thematic areas of the Mak-RIF research agenda," said Dr. Mayega. The GMC called upon all the colleges in Makerere University to identify a project which Mak-RIF shall seed in the next budget cycle.

prominent output and outcome, have high visibility potential, have high potential for amplification of results, have potential to reach regional or national scale, have capacity to drive industry, have high accountability to stakeholders, and demonstrate ability to attract funding beyond Makerere University.

funded per year. They will be vetted by both industry experts and peers to

A funding threshold of up to UGX 300 Million per year, with possibility of extension of funding upon demonstration of formidable results.

College Principals expressed their enthusiasm about the college-led projects initiative and unanimously committed to

In his reaction, Prof. Edward Bbaale, the Principal at the College of Business and Management Sciences (CoBAMS), said that colleges are discipline specific and occupy unique spaces which are

connected to national development. He however added that the schools specialize in specific areas hence a need to develop inter-disciplinary projects.

Prof. Gorreti Nabanoga, the Principal, College Agricultural and Environmental Sciences (CAES) also suggested that colleges can venture into research that guides investment in government initiativs like the Parish Development Model (PDM) and that ideas can cut across colleges.

Prof. Ronald Naluwairo, the Principal, School of Law, also added that the next step is for Principals to go back and creatively create such projects. He also said that some of the projects that have been unsuccessful in the past can be improved to fit within the set criteria.

Ronald Bisaso, the Deputy Principal, College of Education and External Studies (CEES), who was representing the Principal, expressed the need for capacity strengthening in grant writing before the next call for applications is released.

Staff Urged to Build Research Teams for RIF Grant Success

Makerere University staff have been urged to embrace collaboration, accountability, and capacity building as key strategies for winning grants under Mak-RIF. Speaking on the second day of an International Conference organized by the CHUSS Center of Excellence in Research, Teaching, and Learning (CERTL) at Fairway Hotel in November 2024, Prof. Fred Masagazi-Masaazi, Chairperson of the Mak-RIF Grants Management Committee, emphasized the need to eliminate the "Pekeyangu" culture—where researchers work individually—and instead foster teamwork and partnerships.

Prof. Masagazi encouraged staff to form inter-college and institutional research teams, as well as collaborate with national public and private organizations in crafting proposals. He underscored the value of drawing diverse expertise from different sectors to enhance competitiveness and innovation. "Working alone must stop. Let's prioritize teamwork and include diverse expertise in grant writing," he said, adding that partnerships with external stakeholders, including government institutions and private sector players, were critical to winning grants.

In his presentation titled Makerere Research and Innovation Fund: Opportunities and Challenges in the 21st Century, Prof. Masagazi highlighted the importance of timely accountability for disbursed funds. He warned that management would blacklist staff members who failed to provide proper accountability.

Addressing the performance of colleges in grant proposal submissions, Prof. Masagazi observed that humanities-based disciplines were underperforming compared to other colleges, such as the College of Health Sciences and Makerere University Business School. He called on the College of Humanities and Social Sciences (CHUSS) to actively participate in calls for proposals, urging them to leverage their potential and submit competitive projects.

The Mak-RIF committee, he said, plans to provide special consideration for staff who have applied unsuccessfully for grants in the past, giving them an additional opportunity to benefit from funding. Prof. Masagazi commended CHUSS for organizing forums to discuss research, teaching, and learning. He reaffirmed the committee's commitment to supporting such initiatives, particularly those that promote impactful research and broaden collaborations with stakeholders from the Global North and South. He also encouraged staff to adopt a multidisciplinary approach to research and proposal development, stating that working with diverse stakeholders enhances the communication of research findings to broader audiences.





Prof. Fred Masagazi-Masaazi, Chairperson of the Mak-RIF Grants Management Committee, addressing the CHUSS CERTL International Conference at Fairway Hotel on 15th November 2024.





Empowering PhD Students to Shape the Future

Mak-RIF held a launch of the PhD research grant and an induction ceremony for the PhD candidates from the second round of PhD grant. This was presided over by Prof. Buyinza Mukadasi, the Deputy Vice Chancellor in charge of Academic Affairs together with Prof. Michael Owor, a member of the Grants Management Committee, and Ms. Claire Cheromoi, the President of PhD Forum at Makerere University.

PhD Grant funding: 2022/23 marked the first financial year of the PhD Research Grant. 115 grants were awarded out of which 50 PhD students completed their studies in their first year of funding. In the second financial year, 120 grants were awarded. 95 out of 122 PhD graduates for Makerere University's 74th graduation indicated that they had secured at least one source of funding for their doctoral studies. Notably, Mak-RIF was a major source of funding, supporting 12% of these doctoral candidates. The grant amounts range from UGX 20 million up to UGX 30 million aimed at supporting translatable research and scalable innovations of Makerere University's PhD students.

Speaking about research and innovations during Makerere University's 75th Graduation Ceremony held in January 2025, the University Chancellor, Dr. Crispus Kiyonga said that research is vital for communities to move forward. He thanked the Government of Uganda for committing research funds through Mak-RIF. The University's Vice Chancellor, Prof. Barnabas Nawangwe also added that the PhD research grant has been filling a gap that was left with the end of funding of the Swedish Government.

In her message which was delivered by Hon. Dr. Joyce Moriku Kaducu, Minister of Education and Sports, Hon. Janet Museveni said that the Government of Uganda is committed towards the quality of education and research agenda in Makerere University. The PhD research grants are only open to students who have been approved for full registration at Makerere University. Particular attention is paid to ideas that have clear potential for scalability to drive development

The Mak-RIF PhD Research Grants are thus an indispensable resource for PhD students and for Makerere University. Through the grants, the University is not only empowering PhD students to shape the future but also contributing to the broader development of Uganda and beyond.

Throughout the 75th Graduation Ceremony at Makerere University, 143 PhD Graduands were awarded their degrees. Among these were the following Mak-RIF grantees. Prossy Namuwulya (CoVAB), Hilda Mpirirwe (CoCIS), Abel Mukakanya Muwumba (CoCIS), Edward Kansiime (CEES), Annet Mbabazi (CEES), Patrick Waiswa (CEES), Joseph Watuleke (CEES), Christopher Muteesasira (CEES), Hanifah Nantale (CoBAMS), Samuel Kabbera (CoBAMS), Zaina Nakabuye (CoBAMS), Benson Musinguzi (CHS), Roselline Achola (CHS), Grace Muzanyi (CHS), Betty Akwongo (CoNAS), Ezra Rubanda Muhumuza (MUBS), Margaret Nakiwala (CAES), Gerald Ahabwe Zihembire (CHUSS), and Eric Jjemba (CHUSS).

Dr. Gerald Ahabwe, the Former President of the PhD Forum in Makerere University received a PhD Research Grant in 2023 and undertook a research project titled, "Utilization of Technological Innovations in piped water services; a case of prepayment system in urban poor settings in Kampala, Uganda." With excitement in his voice, Dr. Ahabwe expressed his gratitude towards Mak-RIF.

"The Mak-RIF PhD grant made my research journey much easier and faster than it would have been. I used the resources to get all the necessary ethical and administrative clearances, collect, and analyze data. I successfully defended my PhD on 2nd December 2024 and graduated in January 2025," he said. The Mak-RIF Secretariat plans to share the findings of Dr. Ahabwe's work with the National Water and Sewerage Corporation for uptake.



Securing a Mak-RIF PhD Research Grant enabled me to complete my PhD in four years without the stress of financial limitations. My research focused on Oropharyngeal Candidiasis (OPC) in people living with HIV-positive in Uganda, highlighting prevalent OPC and antifungal resistance and the need for improved laboratory diagnosis. The findings, which led to four published research papers, not only enhanced my academic credentials but also aimed to influence health policy and improve patient outcomes in Uganda.

Dr. Benson Musinguzi

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I am extremely grateful for the funding from PhD Mak-RIF rounds 4 and 5, which greatly helped me focus on my research without having to worry about money. This funding allowed me to attend conferences, access important resources, and work with professionals in my field. For instance, I was able to travel to India for a conference at Vellore Institute of Technology, where I presented a paper. The paper was published by Springer journals on July 23, 2024, under the title "A Multifactor Authentication Framework for Usability in Education Sectors in Uganda."

Dr. Hilda Mpirirwe

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The Mak-RIF PhD grant made my research journey much easier and faster than it would have been. I used the resources to get all the necessary ethical and administrative clearances, collect, and analyze data. I successfully defended my PhD on 2nd December 2024 and graduated in January 2025.

Dr. Gerald Ahabwe



Understanding Intellectual Property Issues for Commercialization



Inset: Mr. Canon Goddy Muhumuza (1st Left), the former head of the Makerere University IP office, facilitating a special training on Intellectual Property Management at the Mak-RIF Secretariat in September 2024.

The Mak-RIF Secretariat was facing ongoing challenges with Intellectual Property (IP) management, creating a pressing need for clarity and guidance. Recognizing the importance of addressing these issues, the Secretariat organized a specialized training session in September 2024, inviting Mr. Canon Goddy Muhumuza, the former head of the Makerere University IP office, to lead the discussion.

Mr. Muhumuza, with his extensive experience in IP shared invaluable insights drawn from his knowledge of key organizations such as the Uganda Registration Services Bureau (URSB), the African Regional Intellectual Property Organization (ARIPO), and the World Intellectual Property Organization (WIPO). He delved into essential IP topics, including copyrights, trademarks, utility models, industrial designs, and geographical indications, providing a comprehensive overview that was both enlightening and practical.

During the session, Mr. Muhumuza emphasized that Makerere University holds exclusive ownership of the intellectual property generated within its walls. This ownership is grounded in the fact that the university registers all products and services on behalf of the Principal Investigators (PIs) and offers a supportive platform for researchers and innovators to conduct their work. He underscored the importance of this process, explaining that it not only protects the university's interests but also ensures that the creators' contributions are duly recognized and secured.

The training session also covered the procedural aspects of IP registration, with Mr. Muhumuza providing a detailed outline of the steps involved. From initial application to final approval, he walked participants through the often-complex process, demystifying it and highlighting key considerations at each stage. This knowledge was particularly crucial for the university staff, equipping them with the tools needed to navigate the intricate world of intellectual property with greater confidence and effectiveness.

By the end of the session, the Mak-RIF Secretariat had gained a better understanding of IP management, setting the stage for improved practices that would safeguard the university's innovations and research outputs moving forward.

Similarly, URSB in collaboration with WIPO organized a seminar aimed at enhancing the awareness of Intellectual Property among universities and Research & Development (R&D) organizations in Uganda. This seminar focused on the role of IP in research, the importance of patenting innovations, and the global significance of intellectual property management for universities.

The seminar, held on Friday, 6th September 2024, at Makerere University's Senate Conference Hall was an essential opportunity for Mak-RIF to align with international best practices in intellectual property management and patent filing. The seminar was facilitated by WIPO and URSB, and it featured IP experts who discussed the role of

IP in research, with an emphasis on the Patent Cooperation Treaty (PCT) system.

The PCT facilitates the international filing of patents, a key strategy for universities to improve global ranking and maximize the commercialization of innovations. The seminar was attended by participants from Makerere University and other research organizations, Ministries, Departments, and Agencies (MDAs), and served as a forum for knowledge sharing on IP protection and commercialization strategies.

Why was this seminar important for Mak-RIF?

As a leading funder of research at Makerere University, Mak-RIF's participation in the WIPO Training Seminar was crucial for the following reasons:

Maximizing the Impact of Funded Research

Mak-RIF has funded numerous innovative research projects across various fields, including health, agriculture, technology, and environmental sustainability. Many of these projects have the potential for commercialization and global impact, but proper IP protection is required to fully realize their potential. The seminar provided the necessary training and knowledge to ensure that Mak-RIF-funded projects are adequately protected under global IP laws.

Improving Patent Filing and IP Management

Intellectual Property is an essential component of research and innovation ecosystems. By attending the WIPO seminar, Mak-RIF staff gained valuable insights into how patents and other IP protections can be used to safeguard research outputs, enhancing Makerere University's capacity to protect and commercialize its innovations. This

knowledge is particularly relevant as Makerere University seeks to improve its global ranking, with patent filings serving as a key metric.

Alignment with Makerere University's Research and Innovation Goals

Makerere University, as a research-led institution, is committed to supporting research that has a meaningful impact on society. Mak-RIF's attendance at this seminar ensured that the fund is aligned with the university's strategic goals of fostering innovation, securing IP rights, and increasing the international visibility of research outputs.

Leveraging Global IP Resources

WIPO, as a specialized agency of the United Nations, provides critical resources and services related to intellectual property, including the PCT system. This seminar presented an opportunity to tap into global resources, enabling it to support researchers in filing patents that are recognized internationally, thus increasing the commercial viability of research.

Networking with Key Stakeholders

The seminar was attended by key stakeholders from government Ministries, Departments, and Agencies, and research organizations. It provided Mak-RIF with the opportunity to network with these stakeholders, creating potential collaborations, partnerships, and synergies that can further advance the commercialization of research outputs.

Capacity Building for Mak-RIF Staff and Researchers

Participation in this seminar equipped Mak-RIF staff with the necessary knowledge and skills to guide researchers on how to navigate the complex world of IP. This enhanced Mak-RIF's capacity to provide effective support to researchers in filing patents and other IP protections, thus contributing to the university's innovation agenda.

Enhancing the Parish Development Model for Inclusive Poverty Alleviation in Uganda



Prof. Ezra Suruma (C), Prof. Barnabas Nawangwe (5th Left), Prof. Fred Masagazi-Masaazi (5th Right), and officials from the PDM Lab, NPA, MoFPED, UNDP, OPM, OWC after a brainstorming workshop to discuss findings and emerging issues in the implementation of the Parish Development Model (PDM) on 12th November 2024.

The Government of Uganda started the implementation of the Parish Development Model (PDM) February 2021. The PDM is a flagship initiative to decentralize development planning and poverty alleviation, placing community empowerment at the heart of national poverty reduction. So far, progress has been made and successes have been registered. However. there emerging concerns from the slow pace at which several pillars of the PDM are being operationalized.

Through Mak-RIF, the Government of Uganda is funding research projects aimed at informing the successful implementation and delivery of the PDM. In November and December 2024, Makerere University organized two stakeholder pre-lab workshops on identification the **PDM** the of implementation problem preliminary solutions. Mak-RIF and its researchers were honered to be part of these workshops aimed at discussing findings and emerging issues in the implementation of PDM.

Representing Principal Investigators who are conducting research on PDM,

Dr. Gorretti Kyeyune presented a policy brief which integrates findings from multiple studies with varied scopes, each targeting specific aspects of PDM's implementation. The insights focus on the role of PDM in supporting marginalized groups, effective community engagement, lessons from past livelihoods improvement programs, and the importance of local governance capacity in data utilization.

The policy brief combines objectives from the four distinct scopes to provide a comprehensive approach to improving PDM implementation: 1. Assess previous poverty alleviation strategies, 2. Identify factors for localized PDM implementation, 3. Address the "Soft Factors" effective community development, and 4. Enhance capacity in data-driven decision-making.

The policy brief integrates insights from the following focal areas:

- 1. Wakiso District, Agricultural Sector: Evaluation of PDM's impact on marginalized groups within the agriculture sector, addressing local challenges in resource allocation and infrastructure.
- 2. Busoga Region, Soft Factors in Community Development: Analysis of

social capital, leadership, and training gaps affecting PDM's effectiveness across 113 parishes.

- 3. Nationwide, Historical Programs (1986-2021): A synthesis of insights from previous livelihood improvement programs to inform PDM with lessons learned.
- 4. Nationwide, Data Utilization Capacity: Examination of capacity gaps in data collection and utilization among parish chiefs and local leaders to support more effective, data-driven decision-making.

Reseachers found that some of the challenges previous poverty alleviation efforts include uniform funding models, lack of financial literacy and community training, political and and infrastructure cultural barriers, deficiencies. effective implementation, they recommended strategies such as community-driven needs assessments, mentorship and mindset change programs, enhanced infrastructure investments. governance and data capacity building.

Policy Recommendations Immediate Action Steps

1. Tailored Training Programs:

Develop customized training for local leaders, covering governance, financial literacy, and resource management. This will support both community and sector-specific needs.

2. Data Capacity Development:

Implement targeted training for parish chiefs on data collection and use, enabling better decision-making and program adaptability.

3. Equitable Resource Allocation:

Use population data and needs assessments to allocate funds based on demographic and geographic disparities, avoiding a "one-size-fits-all" approach.

Long-Term Recommendations

1. Infrastructure Expansion and Maintenance:

Improve infrastructure in rural regions to facilitate market access, including storage facilities, processing centers, and feeder roads.

2. Community Entrepreneurship and Innovation Hubs:

Establish hubs in parishes to encourage entrepreneurship, providing mentorship and access to markets, which can sustain economic growth.

3. Enhanced Stakeholder Coordination:

Strengthen collaboration frameworks with NGOs, CBOs, and local leaders, allowing shared resources and expertise to improve implementation.

The policy brief underscores the need for a community-centered approach, leveraging local knowledge and resources to drive impactful development.

Speaking at the first PDM pre-lab workshop in November 2024, former Makerere University Chancellor, Prof. Ezra Suruma highlighted the role researchers play in collecting data and informing initiatives that empower Ugandans to come out of poverty. Makerere University Vice Chancellor, Prof. Barnabas Nawangwe thanked researchers for their work, adding that Makerere is committed towards making a contribution to the implementation of PDM, and towards supporting researchers to meet their obligation.

The PDM pre-lab workshops were also attended by the Chair of the Mak-RIF Grants Management Committee, Prof. Fred Masagazi Masaazi, officials from the PDM Secretariat, PDM Lab, National Planning Authority, Ministry of Finance, Planning, and Economic Development, United Nations Development Plan, Office of the Prime Minister, Operation Wealth Creation, and others.

New Study Reveals Gaps in Govt's Poverty Alleviation Strategies

Daily Monitor, 27th January 2025



Museveni (not in picture) arrives in Busoga Sub-region on January 22, 2025 during his PDM Zonal performance assessment tours.

A new study conducted by Makerere University Business School (MUBS) reveals gaps in government poverty alleviation strategies.

The project, led by Dr. Wilson Williams Mutumba, a

senior lecturer in the Department of Leadership and Governance in the Department of Management who also doubled as the Principal Investigator (PI), was conducted with funding from government through the Makerere University Research and Innovations Fund (Mak-RIF). Dr. Mutumba said the study titled, "Harnessing Parish Development Model Among Marginalized Groups for Poverty Alleviation in Uganda" was conducted over a one and a half year period within Wakiso as a pilot district, focusing mainly on the agricultural sector and rural-based subcounties and parishes.

"The research revealed a number of weaknesses, including using a unform model of one size fits all, which is giving the amount of money to all parishes without considering the population density in the different parishes," said Mr. Mutumba. He added that "Other weaknesses include the absence of financial literacy or giving money to people without first traing them, poor conceptualization and implementation of previous interventions, ignorance and lack of information about some government programmes, and poor timing in distribution of agricultural inputs like coffee seedlings.

For successful implementation of the PDM, researchers called for mentorship and coaching programmes, mindset change, enhancing skills development to

promote finacial literacy, quality market provision, and conducting preliminary needs assessments.

They also called for participatory planning and involvement of local leaders, proper and thorough conceptualization of government interventions, sensitization programmes on finacial discipline, and acquisition of business management soft skills.

Other recommendations suggested by the researchers include value addition and widening markets, involving local leaders to voice out the concerns of the people, and conducting needs assessment of the people in various communities, among others.

The Dean, Faculty of Graduate Studies and Research at MUBS, Prof. Vincent Bagire said, "The PDM can work but only needs to identify some issues that can make it work like having extension workes going out to the grassroot farmers to support them on basic knowledge on how to make theor crops grow, processing, and post harvest activities, and so on."

Mr. Robert Ssendegeya from the PDM Secretariat said that the study has a number of recommendations which are very important in the implementation of the programme. "We had seen some of the challenges, but I am very sure that this report is going to be important to help us move the PDM forward," he added.

Researchers Urge Gov't to Invest in Mindset Change



Inset: Dr. Twine Hannington Bananuka, the Principal Investigator of the Mindset Change and Socioeconomic Transformation from People's World (MiSeT) project speaking during its launch in Kampala on 27th August 2024.

Researchers at the College of Education and External Studies (CEES) at Makerere University urged the Government of Uganda to invest in mindset change to facilitate national development.

Dr. Twine Hannington Bananuka, the Principal Investigator (PI) the Mindset Change and Socioeconomic Transformation from People's World (MiSeT) project noted that the government has been doing much to move people from middle income poverty into status through poverty-alleviation initiatives like Bonna Bagaggawale (prosperity for all), National Agricultural Advisory Services (NAADs), and Operation Wealth Creation among others.

He however added that these initiatives have yielded little results and associated their limited success to the absence of community participation in the development of the initiatives. Several other explanations have been advanced as to why previous government programmes have minimally achieved their intended objectives, among which has been peoples' mindsets.

"Many people know about government programs and are benefitting from them. However, poverty alleviating programmes are conceived by the government, development partners, and researchers without putting into consideration what people are thinking or what they want," said Dr. Bananuka.

The MiSeT project interacts with communities using the problem-posing approach and engages local leaders, change agents, and selected community members to walk a journey of mindset change. This approach leads project participants into critical reflection where they come up with solutions to better their lives.

"Mindset change is not achieved by some form of an education or training. It is rather a lifestyle informed by a conscious process of engagement with people and is highly contextual. We empower communities to collectively develop solutions to the problems they have, change their mindsets, and take action towards their development," Dr. Bananuka adds.

Connection to the Parish Development Model (PDM)

One of the seven pillars of PDM focuses on mindset change. However, most times, when programmes talk of mindset change, it is assumed that people ought to change towards a particular world view/standard. MiSeT facilitates people to engage in a process of self-awareness/conscientization to question, re-evaluate their beliefs, and to construct a pro-development mindset in their given contexts. Mindset is not uniform but affects behaviors and people's attitude towards life. A positive mindset is perhaps something that would enable people to live better lives and harmoniously with one another.

"Government is slowly realizing that people's problem is not just money but rather mindsets. However, one pillar on mindset change in the PDM is not enough. For best results, we need a whole government project on mindset change that runs for at least 5-7 years," says Dr. Bananuka.

MiSeT creates opportunities such as increased productivity and higher incomes, an equitable society, value-consciousness, better livelihoods for all, and the ability to tame nature. The project's findings also create an opportunity for central and local governments to benchmark for wider usage. The one year project was launched in Kampala on 27th August 2024 and is funded by the Government of Uganda through Mak-RIF.

Transforming Communities through Innovation, the footprints of Makerere University Research and Innovations Fund (Mak-RIF)

By Dr. Roy Mayega, Coordinator, Mak-RIF



Makerere University remains one of Africa's leading and most prestigious institutions of higher learning. We are proud of a rich history of academic excellence and innovation; the University has been at the forefront of driving socio-economic transformation in Uganda and beyond. Makerere University Research and Innovations Fund boasts of being one of the catalysts for this. Established to promote a culture of innovation and entrepreneurship among students, staff, and the wider community, Mak-RIF has supported cutting-edge research and innovation projects that address some of the most pressing challenges facing Uganda and the region.

From healthcare and education to agriculture and energy, the RIF has enabled over 1300 researchers and innovators to develop innovative solutions that have transformed lives and communities. In this half year bulletin, we showcase the impact

of Mak-RIF on the community, highlighting some of the most notable projects and innovations that have emerged from the fund, and dig into the challenges and opportunities that lie ahead, as Makerere University continues to drive innovation and entrepreneurship in Uganda and beyond.

The Impact of Mak-RIF

At the end of the first half of this Financial Year 2024/25, a cumulative total of 777 (approx. 58%) projects had completed implementation of their project activities and closed out. We reviewed each of the reports and summarized it to highlight the impact of the project and or the anticipated impact during the last FY (2023/24)

The projects were then classified into the three output categories based on the review of the final reports;

- Category 1: Projects grouped in this category have developed tangible products such as machines, training manuals, medical products, food products, engineering solutions and products, teaching modules/certificate/degree, songs, dictionaries, frameworks, Apps and systems
- Category 2: Projects grouped in this category have made actionable policy recommendations that have been taken up or awaiting being taken up by the relevant authorities.
- Category 3: Projects grouped in this category have built capacity for different institutions in different sectors.

Table 1: Each category was then further classified into three levels of impact; projects at startup level (A), Middle level (B) and projects at Scale (C) as described below.

Category Start-up (A)		Middle level (B)	At Scale (C)			
Developed tangible	Projects that developed a	Projects that developed a tangible	Projects that developed a tangible			
Products (1)	tangible product but not	product, and have engaged a	product and product is in wide			
	adopted by stakeholders (1A)	stakeholder/ industry/partner/taken	circulation/production on the			
		steps to produce the product (1B)	Market/adopted by stakeholder (1C)			
Made Actionable	Projects that have made	Projects that have made actionable	Projects that have made actionable			
Policy	actionable policy	recommendations and engaged one or	policy recommendations that have			
recommendations (2)	recommendations but not	more policy makers/implementers who	been adopted by policy			
	adopted by stakeholders (2A)	have promised to adopt the	makers/implementers/other			
		recommendations (2B)	stakeholders (2C)			
Built capacity in	Projects that have enhanced	Projects that have enhanced the	Projects that have enhanced the			
different sectors (3)	the capacity of different	capacity of different institutions and the	capacity of different institutions and			
	institutions (3A)	institution whose capacity has been	the capacity built has transformed			
		built has utilized the capacity (3B)	the institution's work (3C)			

Phase 1: A total of 172 projects that had been implemented to completion and final reports submitted were reviewed during 2021/22 FY. Majority (63%) of the projects made actionable policy recommendations and ended at the start-up level of impact (59%). One third of the projects reviewed produced a tangible product such as training manuals, equipment, teaching courses, food product, medical product, vaccine, systems or online Apps as described in the project summaries.

Phase 2: A total of 406 outputs were produced from the 318 projects completed during the 3 Financial Years (2021/22, 2022/23 and 2023/24). The outputs included; tangible products, actionable policy recommendations and contribution to building the capacity of different institutions. Majority 254/406 (63%) of the project outputs were actionable policy recommendations while 25% (101/406) of the project outputs were tangible products.

Table 2: The Combined outputs from the two evaluations are shown in the table below.

First Impact Evaluation (FY 2021/22)				8	Second Impact Evaluation (FY 2023/24)				Combined number of outputs				
Impac t Categ ory	1 (tangible product) n (%)	2 (Actionabl e policy recommen dation) n (%)	3 (capa city Build ing) n (%)	Tot al n (%)		1 (tangible product) n(%)	2 (Actionabl e policy recommen dation) n(%)	3 (capac ity Buildi ng) n(%)	Tot al n(%)	1 (tangible product) n (%)	2 (Actionab le policy recomme ndation) n (%)	3 (capacity Building) n (%)	Total n (%)
A (start- up)	28 (50)	72 (66)	2 (13)	102 (57)		64 (63.0)	215 (85.0)	31 (60.7)	310 (75. 8)	92 (58.6)	287 (78.4)	33 (50.0)	412 (69.9)
B (Midd le)	21 (37.5)	21 (19)	6 (40)	48 (27)		26 (25.7)	29 (11.4)	13 (25.4)	68 (16. 6)	47 (29.9)	50 (13.7)	19 (28.8)	116 (19.7)
C (At scale)	7 (12.5)	16 (15)	7 (47)	30 (16)		11(11)	13 (5.1)	7 (13.7)	31 (7.6	18 (11.5)	29 (7.9)	14 (21.2)	61 (10.4)
Total	56	109	15	180		101	254	51	409	157	366	66	589

Footprints of Mak-RIF



Researchers developed a smart irrigation control system (Smart Irri-kit) to address inefficient water use in agriculture, a significant challenge due to farmers; lack of knowledge, resulting in under or excessive irrigation. The Smart Irri-kit, featuring solar-powered technology and soil moisture sensors, aimed to automate irrigation scheduling and enhance water use efficiency.

Since its establishment, Mak-RIF has supported a wide range of research and innovation projects that have had a significant impact on the community. Some of the most notable projects include the following.

1. An innovative e-community governance model for monitoring implementation of catchment restoration and management interventions in River Rwizi sub

catchment. By Dr. Patrick Musinguzi. A community-based App named 'enviroewatch' was developed to support monitoring the state of water and environment. The mobile app has been downloaded by stakeholders and the community in River Rwizi sub-catchment and it is being used by them to monitor environmental degradation and to guide on how to restore the degraded areas in the sub-catchment.

- 2. Automatic Generation and Management of Timetables in Public Universities in Uganda. This has been taken up by four Public Universities in Uganda so far. The Public Universities Timetabling System (UPUTS) is already in use in Mountains of the Moon University, and Busitema University in addition to its origin, Makerere University.
- 3. The Project to Improve teaching and learning of French language led to unlocking capacities to transform teaching French Language in Ugandan schools. The formulated Rendez Vous manuals were taken up by some schools in Uganda (Schools such as Arua Public SS, Bududa Girls, Ndejje SS, Greenhill Academy, and St Peter's SS Nsambyar requested for Rendez Vous episodes to be used in their

school french clubs and lessons). The APFO (Association of teachers of French in Uganda) requested to use project data to formulate manuals for the French subject.

- 4. The Project on Re-imagining Real Estate Education in Uganda by Dr Rachael Daisy Mirembe from MUBS; A manual that has informed the revised policy on housing and Land in Uganda. The Ministry contacted the Research team to help in revision of the Policy on Land and Housing in Uganda.
- 5. The recently assented bill into law on organ donation was partly informed by findings from the study on Building Capacity for the Organ and Marrow Donor Program in Uganda led by Dr. Olivia Kituuka of the College of Health Sciences. The findings on acceptability and feasibility informed the policy and bill.
- 6. The Project on enhancing the Grain Amaranth Value Chain for Improved Nutrition, Livelihoods and Enterprises Development in Uganda by Dorothy Nakimbugwe has developed wheat flour fortified with Amaranthus to help combat malnutrition since wheat is one of the most consumed foods in Uganda. The wheat flour is already on Supermarket shelves.
- 7. Deep Learning Methods for Rapid and Robust Screening of Tuberculosis from Chest X-ray Images at Ernest Cook Ultrasound Research and Education Institute Mengo Hospital Kampala: The team led by Dr. Andrew Katumba of CEDAT developed a robust system for automatic screening of Pulmonary Tuberculosis (TB) from chest x-ray images, utilizing deep learning models.
- 8. Developing an automatically controlled commercial solar-dryer and efficient resource recovery innovations for sustained market responsive fruit production at Kisega Horticulture Association in Kangulumira, Kayunga District and Makerere University: Prof. Ahamada Zziwa from CAES

developed a Hybrid Solar Dryer that was designed, constructed and had a loading capacity of 300kg of fresh and sliced fruits per drying batch. The backup heater shortened the drying time to half the number of days required under solar drying. The project implementers have partnered with Lutheran World Relief (LWR) an international NGO which adapted the Hybrid Solar Dryer to Arabica coffee drying in Kasese areas.

- 9. Offline e-Learning Platform: With the number of Pandemics threatening to rise in Africa, learning disruptions continue to threaten continuity of teaching and learning in Schools. A team at the College of Computing and Information Sciences (CoCIS) designed the 'Peer-to-Peer' Offline e-Learning Content Distribution Platform. This was led by Dr. Mwotil Alex provides continuous access to learning material for students even where the internet may be limited due to connectivity challenges and or charges.
- 10. Digital Land Archives: The team at the University Library embarked on Digitization of Land Archival Documents in Makerere University Library from 1830-1995. The results are remarkable wit by Ms. Rhoda Nalubega, Makerere University's Senior Librarian.

Some of the outputs that have potential for scaling

A Water Filtration Unit that aims at providing clean and safe water to low-income communities using Activated Carbon-Cellulose membrane-based Water filters derived from disposed waste. This was pioneered by Dr. Ibrahim Karume, who was funded under RIF 3 from the College of Natural Sciences (CoNAS).

A Prototype of a biofertilizer formulation which aims to unlock crop productivity for improved food security and household Livelihood in Uganda. This was developed by Dr. Tumuhairwe at the College of Agriculture and Environmental Sciences (CAES).

A Land valuation system with GIS Backed Big Data Analytics for Land Value Prediction for Compensation and Taxation Purposes using a case Study of Wakiso District. This was developed by Mr. Nassir Mwanje from the College of Engineering, Design, Art and Technology (CEDAT).

A Planetarium: The University has acquired a Planetarium to improve on teaching Astronomy and Space Science to Promote Science Education in Schools. This initiative was led by Prof. Florence Mutonyi D'ujanga at the College of Natural Sciences (CoNAS). This can become one of the commercial initiatives for the University through school education trips.

A Rapid Test Kit for detecting Trypanosomiasis: Differentiating between early and late stage Trypanosomiasis is crucial in both human and animal health. Early diagnosis is important to avoid progressing the disease to the neurological stage with more complex and risky treatment. With this in mind, a project led by Dr Charles Drago Kato from College of Veterinary Medicine (CoVAB) assembled and evaluated a blood based lateral flow rapid diagnostic test to discriminate between early and late-stage human African Trypanosomiasis patients. The results are promising and this can be a game changer in East and West Africa where Trypanosomiasis is endemic

Challenges and Opportunities

While Mak-RIF has had a significant impact on the

community, there are still several challenges that need to be addressed. One of the main challenges is the need for sustainable funding to support research and innovation projects. Mak-RIF relies on funding from the Government of Uganda, but this comes with some challenges such as unexpected budget cuts and changing Government priorities which can be unpredictable and unreliable.

Another challenge is the need to strengthen the innovation ecosystem in Uganda. While Mak-RIF has helped to support innovation and entrepreneurship, there is still a need for more incubators, accelerators, and other support such as linkage to the Private sector to help innovators turn their ideas into successful businesses.

Despite these challenges, there are many opportunities for Mak-RIF to continue driving innovation and entrepreneurship in Uganda. The fund has established partnerships with several international organizations and companies, which has helped to attract new funding and resources.

Way forward

The Makerere University Research and Innovations Fund has had a profound impact on the community, supporting innovative projects and initiatives that have transformed lives and communities. While there are still challenges to be addressed, the opportunities for Mak-RIF to continue driving innovation and entrepreneurship in Uganda are vast. As Makerere University continues to drive innovation and entrepreneurship, we can expect to see even more exciting projects and initiatives emerge from the RIF. We have had conversations with the Parish Development Model (PDM) stakeholders to discuss progress on the success of the PDM. We are also looking at discussing land issues in the next phase with the different stakeholders.

PROJECT DISSEMINATIONS

Mak-RIF has supported the dissemination of several high-quality research and innovations projects to influence development policies and programs including the below.



Project title

A competency profile for graduate teachers based on the competence based secondary school curriculum

Principal Investigator: Dr. Yuda Taddeo Kaahwa

This competency profile was developed to standardize teacher training in both private and public universities by developing a holistic strategy to serve as a roadmap for restructuring and upgrading teacher education material and equipping teachers with the competences to succeed in the knowledge and skill based societies of the 21st century.

The competency profile will be used by universities and other teacher training institutions, higher education institutions, the Ministry of Public Service in the implementation of the Scheme of Service for teacher educators, policy makers in the process of developing policies regarding teacher education, and the Ministry of Education and Sports in benchmarking the competencies of graduate teachers. It was disseminated in September 2024.



Project title: Career Selection Enhancement Model based on Behavioral Data and Employability demands for Secondary School Students.

Principal Investigator: Mr. Moses Tuhame Kamondo

Over a period of one year, the study focused on determining requirements of the model. It's major activity was data collection from 420 respondents spread across the four main regions of Uganda with respondents from the Ministries of Education and Sports, Youth, Labour, & Social Development, Finance, Planning & Economic Development, graduates, secondary and post-secondary school students and administrators and parents/guardians among others.

During the project dissemination workshop in September 2024, the PI revealed that the model's key variables are students' behavioral data and employability demands that support students to make informed subject choices. He added that the proposed solution selects and inputs data on parameters including the personality type and vocational interests, contextual influences, individual's self-efficacy, individual's outcome expectations, projection of employability demands, and personal goals which will undergo processing to give an appropriate career or subject choice.



Project title: Managing Tacit Knowledge in Higher Education Institutions: A Collaboration Engineering Approach

Principal Investigator: Mr. Godfrey Luyimbazi

This study aimed at determining what model can be applied to support the retention and sharing of tacit knowledge in higher education institutions. It observes that while tacit knowledge is resident within staff of HEIs, it is difficult to share and is usually lost when staff leave the institutions.

The study found that the factors that influence sharing of tacit knowledge in HEIs include the strength of the knowledge management strategy, the strength of the human resource management, the strength of the leadership, and the strength of the individual personal disposition. It calls for a guiding model and tacit knowledge management strategy that is mindful of the uniqueness of HEIs and similar knowledge creation institutions.



Project title: Student Training for Entrepreneurial Promotion (STEP) program to Universal Secondary School (USE) teachers and students.

Principal Investigator: Dr. Rebecca Nambi

USE-STEP is a timely, strategic, and innovative skilling program purposively designed to combat rising youth unemployment by equipping young people with action knowledge, skills and progressive attitude they need to start up and successfully manage their own businesses as a viable employment option. The project applies evidence-based framework for scoping existing entrepreneurship training in selected USE schools. It also offers action-oriented training to USE school teachers, who in turn train students using established STEP training methodology.

100 USE learners from Mityana SS and 100 USE learners from Nakanyonyi SS in Mukono district were trained in the first cohort in FY 2021/2022 while 100 USE learners from Lweru SS, Buikwe and 100 USE learners from Bombo SS, Luweero have been trained in the FY2023/2024 cohort. The project dissemination was held in Kampala in October 2024.



Project title: Alliance For Medical Research Communication (AMRC).

Principal Investigator: Dr. Alison Annet Kinengyere

This project revealed that a staggering 80% of science research projects remain idle, failing to translate into practical solutions or drive development and that scientists often struggle to communicate their findings beyond academic journals and conferences. Researchers were urged to improve the impact of research through policy briefs, stakeholder engagements, community dialogues, partnerships with the media, and adding incentives to publications among other strategies.

Some of the outputs of the AMRC project include

A publication in the African Journal of Health Sciences accessible here https://www.ajol.info/index.php/ahs/article/view/280088

News articles, documentaries, animations, infographics, TV talk shows, cartoons etc translating medical research into products that are more shareable and relatable to the public. Such products include https://www.youtube.com/watch?v=CjHtEBmm82Q

A draft policy brief. The final version will be shared with relevant MDAs Dissemination of project findings took place in Kampala in October 2024.



Project title: Commercialisation phase of the Ecosystem for Telecommuting (ECOSYSTEL) in Higher Education Institutions in Uganda

Principal Investigator: Dr. Emily Bagarukayo

In its first phase, this project developed a platform and App, deployed on Google Play Store, which supports teleworking for administration, teaching, and learning online in higher education institutions. The platform's components include an appointment system, communication platform, tracking platform, and a module to integrate with the learning management systems. In its commercialization phase, the platform was piloted, deployed, and scaled up to higher education institutions including Makerere, MUBS, Gulu, Mbarara, and Busitema Universities as well as Unyama and Kaliro NTCs and UICT. The dissemination of the second phase of the ECOSYSTEL took place in Kampala in October 2024.



Project title: Firm-specific, market-centric and policy-related determinants of commercialization valley of death' encountered by techno-business firms in Uganda

Principal Investigator: Mr. Ronald Jjagwe

This project dissemination took place during the 6th Africalics International Research Conference held in November 2024 at the University of Ilorin in Nigeria.

The study found that firm-specific determinants like firm competences, knowledge and expertise, investment-related issues and value proposition, firm size and collaborative nature, and nature of risk within a firm directly impact a firm's ability to introduce new products, services, or technologies to the market.

The study proposes key interventions at policy, firm, and market levels to overcome CVD. It urges the government and policymakers to ensure the effective enforcement of policies to overcome commercialization valley of death (CVD) and enhance the commercialization of generated innovations in Uganda.



Project title: Integration of On-Grid and Off-Grid Decentralized Renewable Energy Systems in Uganda

Principal Investigator: Dr. Abubaker Waswa Matovu

This study was done in partnership with Mak-RIF, Power for All, Umeme, Equatorial Power, NOA Uganda services, the Centre for Research in Energy and Energy Consumption (CREEK), as well as communities, farmers, solar system operators, and technicians who gave valuable information.

The study's objective was to undertake a Techno-Economic Analysis of the integration of the centralized grid and decentralized renewable energy off grid system, by developing a model for integrating centralized grid-based connections with decentralized off-grid systems.

Key among the recommendations was the institution of conducive policies and regulations such as enabling grid feed-in and cost-effective tariffs for off-grid developers, and collaborative planning, design, and installation of mini-grids, ready for grid integration.



Project title: Tackling Youth Unemployment: Aligning University Training to Industry Skills Demand through a University-Industry Collaboration Model Principal Investigator: Dr. Annabel Habinka

The project, whose findings were disseminated in December 2024, aims to bridge the graduate unemployment gap by improving collaboration between universities and industry stakeholders. The study quantified the scale of the unemployment issue, examining the role of education and the relevance of industry in equipping graduates with the skills needed to fill the employment gap.

Project partners include Makerere University, Makerere University Business School (MUBS), National Planning Authority (NPA), National Council for Higher Education (NCHE), and the National Curriculum Development Center (NCDC) among other stakeholders.



Project Title: Enhancing Capacities of Women to Leadership Positions in Universities in Uganda (WOLEP)

Principal Investigator: Dr. Florence Nakamanya

This project employed an interpretive approach and purposely selected 29 females from Makerere University, Kyambogo University, Kabale University, Uganda Christian University, Uganda Martyr's University, Ndejje University, Kampala International University, Nkumba University, and St. Lawrence University.

The project urged universities to initiate sustainable networking platforms that provide avenues for incumbent and aspiring leaders to share experiences, challenges and new insights on how to perform their duties through periodic meetings and reflective seminars. Project findings were disseminated in December 2024.



Project Title: ENOUGH! Vulnerability, Perseverance and Resistance in the 21st Century: A docu-drama film about lived-experiences of Survivors of Gender-Based Violence in Uganda.

Principal Investigator: Dr. Viola Karungi

This project produced a documentary film titled, ENOUGH! to contribute towards an understanding of Gender-Based Violence (GBV) faced by elite women following a study conducted in Kampala City and Bushenyi District.

The film, which was disseminated in December 2024, features a case study of a survivor of GBV who chose to tell her lived experience. The story represents experiences of many other victims and survivors of GBV. It also reveals expert opinions on GBV related work to provide better context and analysis in line with education, psychology, child protection, probation, community development, religion and political leadership. The final documentary film will be released soon and will also be available in cinemas.

PUBLICATIONS

- 1. Medicinal plant species used for contraception and reproductive health care in rural Uganda.

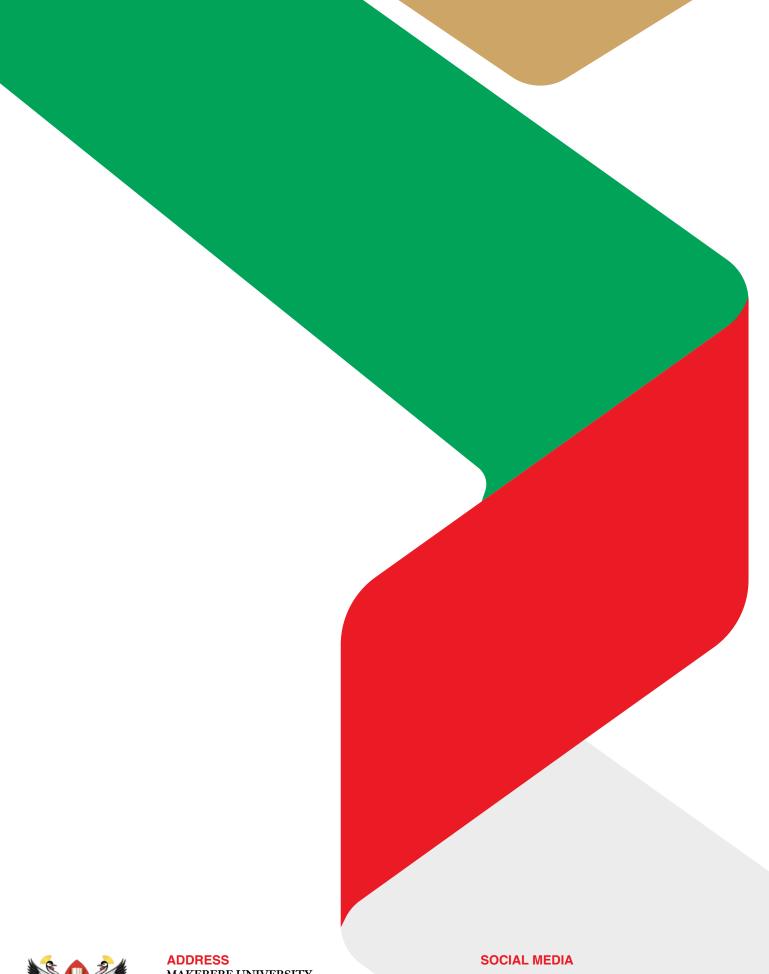
 Mohamed, A.M., Savina, A., Jane, N., Joel, M., Godwin, A., Esezah, K.K. and Robert, B., 2024. Heliyon. DOI: 10.1016/j.heliyon.2024.e41518
- 2. Knowledge Absorptive Capacity: The Secret Sauce that Helps Entrepreneurs in Uganda Convert Technology Orientation into Export Performance. September 2024. African Journal of Business and Economic Research 19(3). DOI: 10.31920/1750-4562/2024/v19n3a27
- 3. Exploring lived experiences with tooth loss among fully edentulous patients attending Makerere University Dental Hospital, Kampala, Uganda. Nono, D., Bagenda, G., Okullo, I. et al. BMC Oral Health 24, 1355 (2024). https://doi.org/10.1186/s12903-024-05150-4
- **4. Dental Clinicians' and Technologists' Experiences and Perspectives on Removable Complete Denture Fabrication Services in Makerere University Dental Hospital, Uganda.** Nono D, Akugizibwe M, Bagenda
 G, Okullo I, Rwenyonyi CM. Clin Cosmet Investig Dent. 2024 Dec 6;16:499-511. doi:
 10.2147/CCIDE.S495315. PMID: 39659802; PMCID: PMC11630715
- **5.** Effectiveness of Interventions That Foster Work-Based Learning (WBL) and Mentorship Initiatives in Uganda. Journal of Development Economics and Finance, Vol. 5, No. 2, pp. 429-441. https://DOI:10.47509/JDEF.2023. v05i02.11. (2024). Niringiye A., G. Muwanga, A. Tuyizere & G. Musiime.
- 6. Plasmodium falciparum genetic diversity and multiplicity of infection among asymptomatic and symptomatic malaria-infected individuals in Uganda. Mwesigwa, A., Ocan, M., Cummings, B. et al. Trop Med Health 52, 86 (2024). https://doi.org/10.1186/s41182-024-00656-7
- 7. Critical success factors for public-private partnership projects in Uganda. Mwesigwa, R., Nanteza, J., Mayengo, J. et al. SN Bus Econ 4, 133 (2024). https://doi.org/10.1007/s43546-024-00718-2
- 8. Feasibility and acceptability of the World Health Organization's I SUPPORT program for dementia caregivers in Uganda. August 2024 DOI: 10.20935/MHealthWellB7292. Joy Louise Gumikiriza, Roy Wiliam Mayega, Janet Nakigudde and Noeline Nakasujja

- 9. An inventory of ethno veterinary knowledge for chicken disease control in Soroti district, Uganda.

 Journal of Medicinal Plants for Economic Development | Vol 8, No 1 | a248 | DOI:

 https://doi.org/10.4102/jomped.v8i1.248 | © 2024 Gerald Zirintunda, John Kateregga, Sarah Nalule, Patrick

 Vudriko, Savino Biryomumaisho, James O. Acai
- 10. Strategies to Reduce Mortality Among Children Living with HIV and Children Exposed to HIV but Are Uninfected, Admitted with Severe Acute Malnutrition at Mulago Hospital, Uganda (REDMOTHIV): A Mixed Methods Study. Victor Musiime, Andrew Kiggwe, Judith Beinomugisha, Lawrence Kakooza, Josam Thembo-Mwesige, Sharafat Nkinzi, Erusa Naguti, Loice Atuhaire, Ivan Segawa, Willy Ssengooba, Jackson K Mukonzo, Esther Babirekere-Iriso, Philippa Musoke
- 11. HIV prevalence among children admitted with severe acute malnutrition and associated factors with mother-to-child HIV transmission at Mulago Hospital, Uganda: A mixed methods study. Victor Musiime, Joseph Rujumba, Lawrence Kakooza, Henriator Namisanvu, Loice Atuhaire, Erusa Naguti, Judith Beinomugisha, Andrew Kiggwe, Sharafat Nkinzi, Ivan Segawa, Nicholas Matsiko, Esther Babirekere-Iriso, Philippa Musoke
- 12. Mercury Accumulation in Food Crops and Phytoremediation Potential of Wild Plants Thriving in Artisanal and Small-Scale Gold Mining Areas in Uganda" Pollutants 3, no. 2: 181-196. https://doi.org/10.3390/pollutants3020014. Ssenku, Jamilu E., Betty Naziriwo, Jennifer Kutesakwe, Abubakar Sadik Mustafa, Derrick Kayeera, and Emmanuel Tebandeke
- **13. Nil modules and the envelope of a submodule.** David Ssevviiri, Annet Kyomuhangi https://doi.org/10.48550/arXiv.2408.16240
- 14. Accuracy of the tuberculosis molecular bacterial load assay to diagnose and monitor response to anti-tuberculosis therapy: a longitudinal comparative study with standard-of-care smear microscopy, **Xpert MTB/RIF Ultra, and culture in Uganda.** *Musisi, E., Wamutu, S., Ssengooba, W., Kasiinga, S., Sessolo, A., Sanyu, I., ... & Sabiiti, W. (2024). The Lancet Microbe, 5(4), e345-e354.*
- 15. Misalignments in prepaid water technology: findings from urban poor settings of Kampala, Uganda Ahabwe, G.Z., Ssewaya, A., Batega, D.W. and Kayaga, S., 2024. Water Practice & Technology, p.wpt2024223.





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