

THE INTERUNIVERSITY RESEARCH AND INNOVATION COMMUNITY FOR THE EARLY CAREER RESEARCHERS IN UGANDA

THE IRIC-ECRU 2020-2025 RESEARCH AGENDA



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BACKGROUND INFORMATION

In September 2020, the Network for Education and Multidisciplinary Research Africa (NEMRA) received funding from the Government of Uganda (GoU) through the Makerere Research and Innovation fund (Rif) to build an interuniversity research and innovation community for the early career researchers in Uganda (IRIC-ECRU). The project is run by NEMRA members as investigators from Makerere University (Mak), Mutesa I Royal University (MRU), Mbarara University of Science and Technology (MUST) and Uganda Christian University (UCU).

The project has four objectives:

- 1. To strengthen early career researchers' capacity in teaching, research and innovations.
- 2. To enhance data management and sharing through an inter-university large-scale soft research data infrastructure,
- 3. To promote joint research and organise agenda-setting activities for cutting-edge research
- 4. To enhance research outcome dissemination by digital approaches to support policy and the national research and innovation agenda.

IRIC-ECRU is in the process of establishing a centre at MRU Mengo campus. The purpose of the centre is to provide the community members with physical resources, a soft infrastructure to manage and share data as well as a research agenda to guide the research direction of the community during the period 2021-2025.

During the first quarter of the project, a review of the research agendas of the partner institutions as well as the research foci of varied research and innovation (R&I) stakeholders in Uganda was conducted. The purpose of the review was to determine the underlining issues and priority areas onto which to underpin the definition of IRIC-ECRU's research agenda. The information reviewed was collected through analysis of publically available documents, interviews with institutional research leaders, as well as online survey with research students, academics and practitioners. The exercise was intended to ensure that IRIC-ECRU adopts a research agenda that expresses common interests and is in alignment with the partner institutions' as well as Uganda's research agendas. The report from this exercise guided the investigators to organise IRIC-ECRU's interests and will direct the community's work. The report has thus been used to develop an agenda/framework that will allow PhD students and the early career researchers to attack research ideas from multiple vantage points in response to Uganda's R&I needs.

This research agenda was also informed by the literature review exercises carried out by interuniversity teams of PhD students. The teams who are reviewing literature on various aspects of R&I in Uganda are trying to identify gaps in multidisciplinary research, R&I ecosystem building as well as knowledge and technology transfer for development in the country.

Sections 1-4 below describe in detail the process and the results of the review of the research agendas of individuals and institutions in Uganda before presenting IRIC-ECRU's research agenda in section 5.

INTRODUCTION

It is generally believed that universities/postgraduate schools as well as countries work with a research agenda that guide their work during a given strategic period. It is therefore incumbent upon the faculty members and research students to identify a theme or interest from the broader institutional/department research agenda. It is unclear whether the research agendas of Academic institutions/department in Uganda are defined, published, widely known by faculty members/students and whether these research agendas are relied upon to define the institutional research direction and output. Moreover, the enrolled graduate students need guidance regarding how to accomplish the important task of aligning to the institutional research agenda and later on the national research agenda.

The assumption of IRIC-ECRU was that in several Higher Education Institutions (HEIs) in Uganda explanation is provided about what, exactly, their research agenda is, and faculty members and postgraduate research students align their academic career and research to the institutional research agendas. Thus, in this project activity, we started by analysing how the participating HEIs have determined their specific research focus, interest, community, and context. The investigation also took into consideration the national research priorities and frameworks that were assumed to be the guiding blocks for the institutional research agendas.

WHAT IS A RESEARCH AGENDA?

According to Peggy and Krista $(2014)^1$ a research agenda comprises a framework that allows you to attack a topic from multiple vantage points and a set of actions a researcher/ an institution take(s) to organize their/its interests and work. Therefore, the research agenda provides a map for one's career or an institutional research strategic direction –at least for the next few years (e.g., 3–5). Typically, the research agenda includes a set of questions, issues, or problems, all of which relate to a common theme(s) or topic(s). The research agenda orients the faculty members and students of an academic institution toward both short and long-term goals, which tend to be linked by common concerns, methodologies, or themes.

A research agenda identifies the research priorities for the group and can be specific enough to include questions and possible studies that provide a direction or path for the schools/faculty/department/researcher's work.

WHY DO INDIVIDUAL RESEARCHERS OR INSTITUTIONS NEED A RESEARCH AGENDA?

A well-articulated research agenda can assist essential contributors and intended beneficiaries to visualize the link between research and community needs, systems/intervention outcomes, and national development. It is thus used to satisfy external stakeholders and act as an internal source of both purpose and focus.

¹ Ertmer, A. P. and Glazewski, K. (2014) Developing A Research Agenda: Contributing new knowledge via intent and focus (April 2014) *Journal Of Computing In Higher Education*

Although IRIC-ECRU is an interdisciplinary community, a framework for research, methodologies and intention is important to focus the activities, engage and be relevant to the wider society in Uganda

METHODS USED TO REVIEW THE AGENDAS

This section provides a narrative review which is the summation and analysis of data that was available from documents (Gregory and Denniss, 2018)² as well as empirical data from interviews and the online survey.

The documents that were reviewed concerning Mak's research agenda included: Mak's 2020-2030 strategic plan, Mak 2013-2018 research agenda, and Rif five-year National Research Agenda 2020-2025. From MUST, the strategic plan for 2016-2026 was reviewed. UCU research niche is children. A document that provides justification for this research focus was reviewed. Information was also obtained from the UCU 2014 research policy. MRU 2019-2023 strategic plan as well as their 2019-2022 research agenda were analysed.

Face-to-face interviews were also conducted with university leaders directly or indirectly involved in planning for and managing research at the partner institutions.

Finally, data about individual, institutional and Uganda's research agenda was collected through an online survey targeting stakeholders directly or indirectly involved in R&I in Uganda.

The investigation sought the following aspects of the research agendas: 1) the history and achievements of the institutions' research performance, 2) the priority areas of the research agenda, 3) the drivers/motivation of the agenda, 4) the matching researcher training, mentoring and development policies and practices, 5) the stakeholders in the agenda and their role, 6) the success and challenges in agenda implementation, 7) the relevance of an interuniversity R&I community in advancing the agenda and finally, 9) the role of the institution and/or DRGT in advancing the IRIC-ECRU vision.

In the next section is the presentation of the results of the review.

THE INSTITUTIONAL RESEARCH AGENDAS

MAKERERE UNIVERSITY RESEARCH AGENDA

Mak 2013-2018 research agenda was focusing on five priority areas 1). Research in health, indigenous knowledge and health systems, 2) Environment and Natural Resources Management 3) Agricultural production and productivity (crop and livestock), 4) Nutrition, Food security and value addition 4) Technology and basic sciences and 5) Governance, human rights and economic management.

Mak's 2020-2030 strategic plan states the Mak's goal for this period as that of being "*a research-led university responding to national, regional and global development challenges.*"³ Although specific objectives to achieving this this goal are stated the strategic plan does not provide an

² Gregory, T. A. and Denniss, R. A. (2018) An Introduction to Writing Narrative and Systematic Reviews — Tasks, Tips and Traps for Aspiring Authors. *Heart, Lung and Circulation* 27, 893–898 https://doi.org/10.1016/j.hlc.2018.03.027

³ https://www.mak.ac.ug/research/research-agenda

explicit research agenda. The university website information however states that "on the basis of the National Government plan known as Poverty Eradication Action Plan (PEAP), the University selected 6 themes that make up the University's Research Agenda. Research Agenda themes are as follows: 1) Research into Education for Development 2) Food, Nutrition and Value Addition. 3) Sustainable Environment Development, 4) Good Governance, Equity (including gender) Service Delivery, 5) Health (infectious and lifestyle related diseases) and 6) Natural Resources Utilization and Conservation."⁴ This information is available on the university website and is yet to be availed in an elaborated form. Mak administration indicated during the interviews that the research carried out at the moment is donor and Uganda's national development plans driven.

In a separate arrangement, Mak Rif has drafted and proposed a five-year Research agenda (2020-2025) to support the Government of Uganda's national development strategy. The government supports Mak's research through the Rif to enhance local generation of translatable research and scalable innovations that address key gaps required to drive Uganda's development agenda. The University has in turn identified priorities critical to accelerating development across different sectors of the economy in Uganda to guide the use of government funding. The agenda covers 14 thematic areas as outlined below:

- 1. Transforming the agricultural sector to drive development
- 2. Achieving Sustainable health as a means to sustainable development
- 3. Re-imagining Education to unlock capacity for economic development
- 4. Water, sanitation and the environment: A pre-requisite to sustainable development
- 5. Harnessing the social sector, culture and arts to drive development
- 6. Harnessing tourism, wildlife and heritage to drive development
- 7. Sustainable Planning, finance and monitoring as catalysts for growth
- 8. Leveraging public service and local administration for efficient service delivery
- 9. Defence and security: Achieving sustainable peace and stability
- 10. Strengthening law, governance, human rights and international cooperation as pre-requisites for development
- 11. Harnessing Information and Communication Technology to drive development
- 12. Works, manufacturing, science and technology as tools to accelerate development
- 13. Solutions to catalyse business and enterprise
- 14. Energy and Minerals as drivers of rapid economic development

The above available information about Mak's research agenda indicates a very wide focus and an array of priority areas. One of the responses form the survey provides an overview:

"Makerere University is a large institution with a number of colleges and schools. Each has its own focus. However, generally, each unit's research centres on the University's Strategic Plan, the Country's Vision 2040, and the United Nation's Sustainable Development Goals." Respondent of the survey

In defining IRIC-ECRU research agenda, it was important to compress Mak's priority areas into broader themes that are inclusive of the foci from the other partner institutions and stakeholders.

⁴ https://www.mak.ac.ug/research/research-agenda

MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY RESEARCH AGENDA

R&I is a key strategic theme in MUST's, 2016-2026 strategic plan. The goal is "to enhance the quality and quantity of R&I". The following objectives are set to enhance achievement of this goal: conduct mentorship, establish incubation centers, centralise research and innovations management office, support multidisciplinary collaborative research teams, support research partnerships, support fundable research proposals, support seed research funding grants within MUST, support research agenda and strategy, conduct annual research dissemination, support policy briefs and support directory of research outputs. The plan, however does not point at MUST's specific research focus or priority areas.

During the interview, MUST top management indicated that a process for developing a research agenda was being initiated by engaging the lower level managers for a bottom-up approach to prioritising the institution's research focus.

UGANDA CHRISTIAN UNIVERSITY RESEARCH AGENDA

UCU is mandated to ".... conduct research which enlarges the province of human knowledge in general and increases the effectiveness of the Church in particular" (UCU 2014 Research Policy).⁵ Their research agenda prioritises children as a group on whom the future depends. The university is committed to identifying and promoting research areas which focus on issues that affect children in general. The agenda does not suggest that all university research efforts should be on children. Rather, it emphasise that research efforts whether in business, social work, law or science should emphasise the child perspective. UCU then focuses on research that "helps to improve the situation and opportunities of the children and their environments in general cutting across the different disciplines such as economics, business, health, education, theology, engineering, law, social sciences, medicines, public health, agriculture, among others. This includes, knowledge about different problems, successes and prospects children face given the micro and macro level socio-cultural, religious, economic, technological, historical, political, etc. interplay which impact, on the family, government, and societal decisions affecting children." Additionally, the agenda covers research towards understanding the impact of various micro and macro initiatives or interventions on child welfare, rights, protection, and survival.

Although the university leaders admitted complexity in integrating the focus on children in the university wide research framework, they were comital to this agenda for its linkage to the Church of Uganda mission; an institution to which the UCU is affiliated.

MUTESA I ROYAL UNIVERSITY RESEARCH AGENDA

MRU 2019-2023 strategic plan as well as their 2019-2022 research agenda were analysed. R&I is one of MRU's eight strategic pillars and research a core function of the university. The key objectives of this pillar are twofold: i.e. to provide a conducive environment for research to students and academics as well as to increase and diversify the sources of research funding.

⁵ https://ucu.ac.ug/images/Research/UCU-Research-Policy-February-2014.pdf

The research priority areas are 1) economic and business development, 2) environmental and sustainable resource management, 3) mass media research, 4) educational development, 5) livelihoods, poverty and food security, 6) cultural heritage. The university has in addition, three crosscutting themes i.e. global dynamics. gender and research methodology.

In support of the research agenda, the university provides a conducive environment to do research in the priority areas by encouraging proactivity, increasing diversity of resources for research and are in the process initiating research focused postgraduate training.

In addition, MRU is uniquely committed to inter-disciplinary research that fosters linkages between research and enterprise activities for community outreach.

Table 1: Tabular analysis of research agendas

Pa	rameter	Makerere University	UCU	MRU	MUST
1.	Themes	 Six Research into Education for Development Food, Nutrition and Value Addition. Sustainable Environment Development, Good Governance, Equity (including gender) Service Delivery, Health (infectious and lifestyle related diseases) and Natural Resources Utilization and Conservation 	One Children. The agenda emphasise that research efforts whether in business, social work, law or science should emphasise the child perspective	 Six Economic and business development Environmental and sustainable resource management, Mass media research Educational development, Livelihoods, poverty and food security, Cultural heritage. 	No themes yet, but the focus is on community engagement. a process for developing a research agenda was underway—it followed a bottom-up approach that was initiated by engaging the lower-level managers to conduct consultative meetings that would come-up with the departmental
2.	Time defined	Unspecified	Specified	Specified	N/A
3.	Process	Mixed approach	Research department driven	Research department driven	Bottom- Up approach
4.	Availability	On the website	On hard copy	On the website	Not available
5.	Staff awareness	Fair	Fair	Fair	Fair
6.	Capacity building	Needed	Needed	Needed	Needed
7.	Comprehensiveness	Broad	Narrow	Quite Broad	N/A
8.	Relevance to other regional and nation agendas	Embrace the National and Sustainable Goals	Embraces the Human rights and National goals	Embraces the Regional, National and Sustainable Goals	Embraces the National and Sustainable Goals

THE STAKEHOLDERS' AND UGANDA'S RESEARCH AGENDAS

Various IRIC-ECRU stakeholders including postgraduate research students, academics and practitioners were invited to participate in the survey. A total of 39 participants provided information about their personal research agendas, their institution's research agenda and views about Uganda's research agenda.

THE COMMON THEMES THAT STAND OUT IN THE RESEARCH AGENDAS

The individual research priorities were varied covering the social sciences and humanities as well as the natural sciences themes. Examples of areas that respondents focus their research on included children rights, environment management, women and human rights, climate change, reproductive health and traditional medicine. What is interesting from the responses was again the differences in responses about the institutional and national research agendas. Respondents from the same institutions, for example, provided different responses about their institutional research focus. The question about Uganda's research agenda also provided multiple response with no particular or common priority identified. The lack of harmonised views about the research focus for institutions and Uganda generally may be suggest minimal attention given to institutional and national research agenda setting and dissemination.

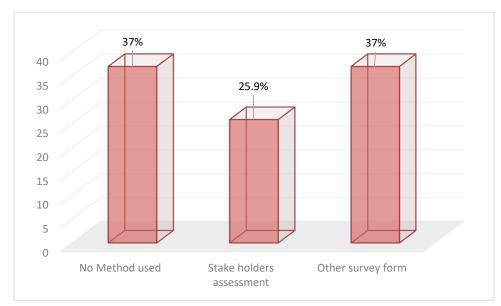
THE DRIVERS OF THE RESEARCH AGENDAS

Respondents' responses about their motivation towards their research focus expressed a general desire to serve society and solve its complex problems. Some responses to this end are provided in the quotes below:

"To save women dying every day in Uganda" "To be able to develop empirically driven, adapted interventions to support our business clients to start, nurture and grow sustainable businesses as drivers towards socio-economic development of their employees and that other nation at large" Agriculture could yield better if financing was able to reach the grassroots farmers."

Because the responses on the institutional research foci from various institutions were multiple, the survey did not identify common drivers for those priorities. Some of the drivers included climate change, employability, national development and funding. It was necessary for the inquiry to understand the methods used by individuals and institutions' in the research agenda setting process for IRIC-ECRU to consider and defining the community's research agenda. A significant number of respondents were not aware of the methods were their institution or Uganda used to set a research agenda. The graph below shows the distribution of the responses on this question. This lack of awareness was expressed directly or through indicating that no methods were used.

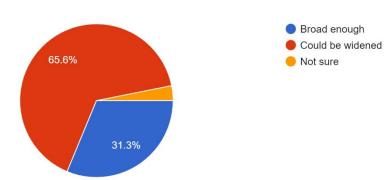




BREADTH OF RESEARCH AGENDAS

Most respondents were of the view that their institution's research agenda could be widen further. The figure below provides a graphical expression of the views on the breadth of institutional research agendas.

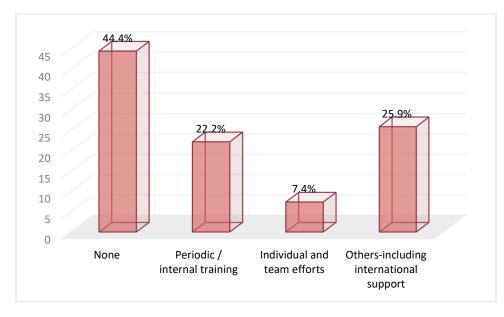
Figure 1: Capacity building for attainment of the research agendas



How would you define the breadth of your institution's research focus? ³² responses

RESEARCH CAPACITY BUILDING

IRIC-ECRU key objective is to build capacity for research through training and mentorship. The community's research agenda will therefore clearly stipulate the strategy for developing ECRs with the intellectual and personal abilities to work on the community's research priorities. It was therefore important to find out the existent researcher training, mentoring and development policies and/or practices tailored to achievement of institutional research foci in Uganda. Almost half of the sample didn't know of any efforts to train and mentor researchers in their institutions. Others indicated that individuals develop research teams for peer support on academic writing, problem identification, resource mobilization, research grants proposal writing and publication. Some indicated that their institutions provide scholarly writing seminars and periodic trainings on various aspects of research expertise. Others mentioned funded exchange programmes, PhD trainings in research and funding for researchers. International training by institutions like: CODESRIA Governance Institutes, Pasgar training in Nairobi and Pedagogical training were also identified as partners providing researcher training in Uganda.





The role of IRIC-ECRU as envisioned by the respondent include mainly steering collaborative efforts across HEI, leading the mentorship efforts, and spearheading effort for awareness and training in research agenda and research infrastructure related issues.

THE IRIC-ECRU RESEARCH FOCUS 2020-2025

To support the research agendas of individuals, institutions and Uganda in general, IRIC-ECRU will focus on research that enhances **multidisciplinary researcher capacity building** in Uganda.

While the Uganda's Human Capital Development Programme and the National Human Resource Development plan spell out interventions to address foundations for human capital development (Childhood development & education), improve population health and safety, promote STEI/STEM in the education system, and other human capital development initiatives, there is no agenda for developing researchers. The results of the review of the various research agendas show that the question of researcher development as one being grossly ignored by individuals and institutions alike. In fact, the review did not identify researcher capacity building initiatives that intentionally aligned with the research agendas that institutions and individuals are pursuing.

To fill this gap and support the research ecosystem in Uganda, IRIC-ECRU will focus its research on issues that affect the researcher development process, find answers to the following and interrelated questions and provide ideas for related policy formulation and practice:

- 1. What are the best approaches for equipping researchers with appropriate *knowledge and intellectual abilities* to do research?
- 2. How can the researchers' *personal effectiveness* be enhanced to effectively do research and respond appropriately to the country's R&I needs?
- 3. What are the aspects of *research governance and organisation* in the Ugandan context and how do they affect research productivity?
- 4. What are the best strategies for researcher *engagement, influence and impact* of the contemporary wider society?

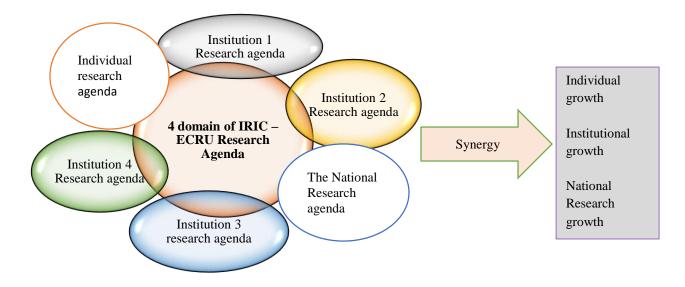
The four questions are underpinned on the Vitae (2011) researcher development framework. The community members will attack these four questions from various points as suggested by the possible research areas pointed out against each domain in the table below.

Table 2: IRIC-ECRU Research priority areas

Do	omain	Possible areas for research				
1	Knowledge and intellectual abilities	Reforms in research methodology and research methods courses/teaching				
-	(Topics covering Uganda's	Ugandan culture, education and critical thinking & analysis				
	researchers' knowledge and intellectual abilities to do research)	The MSc and PhD studies in Uganda; program and content				
	meneciali abinies to ab research)	The cognitive abilities of Uganda's MSc and PhD graduates				
		Data/Information management, usage and sharing abilities				
		Research ethical practices in Uganda				
2	Personal effectiveness	The work ethic of Ugandan based researchers				
	(Topics covering inquiry about the	The concept of time management among academics and researchers				
	personal qualities of Uganda's researchers)	Attitudes towards research and the research career				
		Work life balance among academics and researchers				
		Professional (∨ financial) development of researchers in Uganda				
		Enthusiasm, perseverance and resilience of researchers.				
		Postgraduate research supervision in Uganda				
3	Research governance and organisation	The practice of researcher mentorship in Uganda				
	(Topics such as standards, professional conduct, financing and	The awareness and integration of international standards and procedures in Uganda's research practice.				
	managing research)	Research management at HEIs, private and government agencies				
		Research funding (acquisition and management)				
		Women and minority groups in research careers				
		The role of government in researcher development				
		Stakeholder management				
4	Engagement, influence and impact (<i>Topics relating to Uganda's</i> <i>researchers' engagement with society</i>	University/society communication; methods and channels				
		The researchers' involvement in policy formulation and implementation				
	to influence and impact the broader context.)	Translating research into an enterprise.				
		IPR in Uganda				
		The national, regional and global context				
		Public engagement				

With this research focus IRIC-ECRU is positioning itself as a centre of ideas for knowledge and practice on the researcher development process in Uganda.

In this way, rather than creating new themes or duplicating what is already being done, the community will offer a supportive role to individual, education and non-education institutions in their pursuit for their research agendas.



The linkage between Individuals, Institutions', the national and the IRIC's Research Agenda: Supportive Role

THE IRIC RESEARCH AGENDA PUBLIC DIALOGUE

The final step in developing this agenda was making consultations with the public and other relevant stakeholders about their views on the chosen research focus. The agenda was presented and discussed by a team of three discussants: Professor William Bazeyo from the School of Public Health at Makerere University, Dr. Maxwell Otim Onapa from the Directorate of Science Technology and Innovation at the Ministry of Science, Technology and Innovation and Dr. Jane Egau from the Ministry of Education and sports. 46 participants including PhD students, academics and research practitioners from Uganda and abroad took part in the dialogue.

The discussion re-emphasized capacity building as an underpinning issue and thus the need for empirical ideas on how to re-enforce the four domains that IRIC-ECRU intends to focus on. Specific emphasis was put on the research governance and organisation domain for ideas on writing research grants, budgeting, M&E, accountability and reporting.

Although IRIC-ECRU' research agenda does not directly focus on any of the development programs outlined in Uganda's National Development plan III, chapter 22 of the plan indicates research capacity building is the foundation for implementation of the plan. The analysis carried out during the development of the National Research and Innovation Framework also found out that most Universities and R&D institutions have no capacity to incubate innovations and start spin-offs. It was also indicated at the dialogue that Uganda is in the process of developing a research agenda.

IRIC-ECRU will therefore focus on supporting the research ecosystem for effectives of the national development framework and objectives. Once the national research agenda is finalised, IRIC-ECRU will consider revision of its agenda if necessary for realignment.

The process of refining this agenda, budgeting and development of other related frameworks will be carried in IRIC-ECRU second year of operation.

