



Higher Education Council
Quality Education - Our Aim

RESEARCH AND INNOVATION FRAMEWORK FOR HIGHER EDUCATION

JULY 2026

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FOREWORD

Rwanda's ambition is to become a knowledge-based, high-income economy by 2050. Achieving this goal places significant expectations on our Higher Learning Institutions (HLIs). For decades, these institutions have been judged primarily on how well they teach. This Framework seeks to transform Rwanda's HLIs into premier, globally competitive engines of discovery, innovation, and entrepreneurship.

The case for this transformation is not abstract. Research capacity across the sector remains limited, with only a fraction of academic staff holding doctoral qualifications, while national expenditure on research and development continues to fall short of continental targets. At the same time, Rwanda's national development plans particularly Vision 2050 and NST2 depend on a higher education sector capable of generating the knowledge, skills, and innovations needed to drive the country's socio-economic transformation. The gap between where we are today and where we need to be is the reason this Framework exists.

What follows is not a call for incremental adjustment. It sets out five strategic pillars from strengthening institutional governance to deepening international collaboration that are designed to transform our institutions from isolated, teaching-focused entities into an interconnected ecosystem where government, academia, and industry collaborate to develop solutions to Rwanda's pressing challenges. The Framework also introduces a performance-linked system to measure progress and support evidence-based decision-making.

None of this will happen through declarations alone. Higher Learning Institutions are called upon to build the internal capacity to lead research, strengthen collaboration with industry and other stakeholders, and develop a robust research and innovation ecosystem that fosters innovation and a competitive workforce.

The Higher Education Council presents this Framework as both a roadmap and a commitment to building a research and innovation ecosystem worthy of Rwanda's ambitions.



Dr. Edward Kadozi

Director General

EXECUTIVE SUMMARY

This document presents a strategic framework for transforming research and innovation within Rwanda's Higher Learning Institutions (HLIs). It is a response to a pivotal moment in the nation's development. As articulated in Vision 2050 and the National Strategy for Transformation (NST2), Rwanda's journey towards a knowledge-based, high-income economy is inextricably linked to the capacity of its higher education sector to not only teach but to research and innovate.

The Higher Education Sector Strategic Plan (HESSP) 2025-2030 sets an ambitious agenda: to build a trusted, connected, innovative, and productive sector. This Research and Innovation Framework builds the transformation engine.

The Research and Innovation Framework is designed to catalyze a fundamental shift, moving HLIs from their traditional focus to become vibrant, entrepreneurial, and impact-driven hubs that are central to national prosperity.

This Framework outlines a clear pathway to achieve this, establishing the structures, incentives, and culture required to ensure that research is not an academic exercise but a powerful tool for socio-economic advancement

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1| BACKGROUND



Rwanda's development trajectory demands a higher education system that actively drives progress. NST2 prioritizes a knowledge-based economy, underpinned by innovation and high-value skills. This cannot be achieved without a robust and productive research ecosystem.

Rwanda's higher education sector is expanding rapidly, with increasing institutional diversity, cross-border provision, and heightened expectations for quality and accountability. Yet the current research and innovation system remains fragile and fragmented. The public research sector is hampered by a low intensity of researchers spread across many government departments. The higher education system is expanding and has diversified in the last two decades, albeit from a low base.

Research capacity in the higher education system is currently low, and only around 26% of staff have PhDs. Higher Education Strategic Plan target and Government Science, Technology, and Innovation (STI) policy has set out plans to increase the percentage of PhD to 50% by 2030 and 75% by 2035, respectively.

The current reality, as detailed in HESSP 2025-2030, is that while progress has been made, the system remains fragile. Research capacity is low, with only a fraction of academic staff holding doctoral qualifications. Gross Expenditure on Research and Development (GERD) stands at 0.79% of GDP, below the African Union's recommended 1% target. Publication output is modest, and the conversion of knowledge into tangible products, services, and spin-off companies is nascent.

The national STI Policy (June 2020) highlighted the following six national priority sectors for science, research and technology development: Sustainable Energy, Food Security and Modern Agriculture, Life and Health Sciences, Local production and value addition, Digital services, Products and lifestyles, Resilient Environment and Natural Resources.

This framework confronts these challenges head-on. It is built on the understanding that a world-class research and innovation system is not a luxury but a fundamental prerequisite for achieving Rwanda's national aspirations. It moves beyond incremental improvement to mandate a fundamental shift in mindset, governance, and practice.

Legal basis

The Article 4 of Law N° 010/2021 of 16/02/2021 determining the organisation of education indicates that "specific objectives" of education include among others "to promote science, technology, research, technical and vocational skills in order to speed up national development".

The Article 44 of the same Law stipulates that the responsibilities of an institution of higher learning include among others “to carry out and promote research in all scientific and technological disciplines and on different issues at the national, regional and global level; to publish and disseminate research findings; etc.”

The Article 6 of the Presidential Order N° 081/01 of 28/08/2020 Establishing Higher Education Council stipulates that HEC responsibilities include among others: to monitor the quality of research conducted in institutions of higher learning institutions.

The Article 40 of the Ministerial Order No. 001/MINEDUC/2021 of 20/10/2021 determining standards in education stipulates that HLIs are mandated to conduct impactful fundamental and applied research to address societal needs and drive progress.



2| PURPOSE OF THE FRAMEWORK

The main purpose of this Framework is to provide a framework that is strategic, coherent, and actionable, and which would transform the higher education sector into a main driver of national development. It is designed to align with national priorities such as Vision 2050, the National Strategy for Transformation (NST2), and emerging sector reforms.

To this end, this Framework is intended to:

i. Align Higher Education with National Aspirations:

To ensure that all research and innovation activities conducted within HLIs are directly contributing to the realization of Vision 2050 and the priorities set out in the National Strategy for Transformation (NST2).

ii. Shift the Institutional Mindset from “Teaching-Only” to “Entrepreneurial and Impact-Driven”:

To mandate, formally, the transformation of HLIs from traditional academic institutions to dynamic, problem-solving institutions. This framework is intended to provide HLIs with the tools and the mechanisms to incentivize this shift.

iii. Foster a Functional “Triple Helix” Ecosystem:

This is to develop a permanent and effective platform to enable collaboration between Government, Academia, and Industry. This framework is designed to break down barriers between these three arms, thus ensuring that research is not conducted in “ivory towers” but is done collaboratively to address real-world challenges faced by Rwandan communities and businesses.

iv. Optimize Resource Allocation and Build Capacity:

This is with the aim of providing a coordinated approach for mobilizing and utilizing financial, human, as well as infrastructural resources. It also helps in identifying gaps, for example, the low conversion rates of student research, and instead focuses on investing in faculty development, postgraduate supervision, as well as digital research infrastructure, for example, the national research repository.

v. Enhance Global Competitiveness and Visibility:

This is to position Rwanda as a competitive regional hub for research excellence and higher learning. In this regard, by encouraging international collaboration, global benchmarking, and increasing the volume of high-quality publications and patents, this framework seeks to integrate Rwandan academic institutions into the global knowledge economy.

3| VISION AND GUIDING PRINCIPLES

3.1 Vision Statement

To transform Rwanda's Higher Learning Institutions into premier, globally competitive engines of discovery, innovation, and entrepreneurship that are deeply integrated with the economy and society, thereby driving sustainable socio-economic transformation and positioning Rwanda as a regional hub for knowledge creation in full alignment with Rwanda's Vision 2050 and National Strategy for Transformation (NST2).

a) Alignment & Impact:

All research activities shall be strategically aligned with national development priorities (NST2, Vision 2050) and evaluated by their contribution to solving real-world problems, creating jobs, and improving lives.

b) Collaboration (The Triple Helix):

Dismantle the "ivory tower" by mandating and incentivizing deep, co-creative partnerships between Government, Academia, and Industry. This ensures research is relevant, and that knowledge flows seamlessly from the lab to the market.

c) Excellence & Relevance:

Foster a culture of research excellence that meets international standards, while ensuring that the core focus of this excellence is applied to the unique challenges and opportunities of Rwanda and the region.

d) Entrepreneurship & Commercialization:

Mainstream an entrepreneurial mindset across the sector, actively promoting the translation of research outputs into market-ready products, services, and new ventures.

d) Capacity & Inclusivity:

Mainstream an entrepreneurial mindset across the sector, actively promoting the translation of research outputs into market-ready products, services, and new ventures.

4| POLICY AND STRATEGIC CONTEXT OF THE FRAMEWORK

This Framework is informed by and is consistent with a range of important national policies, including:

vi. Vision 2050:

Seeks to create an upper-middle-income country by 2035 and a high-income country by 2050, driven by innovation and skills.

vii. National Strategy for Transformation (NST2):

Prioritizes job creation (1.25m jobs), private sector growth, and innovation-driven industries.

viii. Higher Education Sector Strategic Plan (HESSP2) 2025-2030:

Outlines the roadmap for transforming the higher education sector for better quality, collaboration, innovation, and contribution.

ix. National Research and Innovation Agenda (NRIA) (2021):

Highlights strategic areas of national development, which include local production, advancement of science and technology, as well as sustainable innovation; and underscore research that can drive economic transformation, regional integration, as well as global competitiveness.



51 STRATEGIC PILLARS AND OBJECTIVES OF THE FRAMEWORK

To position Rwanda's HLIs as globally competitive hubs of research, innovation, and entrepreneurship that drive socio-economic transformation.

This framework is based on five strategic pillars, which are interconnected. These are:

Pillar 1: Strengthen Institutional Capacity and Governance

Objective:



To build a strong and coordinated research ecosystem within and across HLIs.

Focus:



This pillar focuses on moving from fragmented, input-focused research to a well-structured system, and leadership within each HLI to manage and grow research activity.

Strategies:

a) Establish Dedicated Research, Innovation, and Enterprise (RIE) Units:

Every HLI shall establish a fully functional RIE unit with a dedicated budget and senior leadership. These units will manage grant applications, ethics, intellectual property (IP), and industry engagement, acting as the central nervous system for institutional research.

b) Implement an Entrepreneurial Maturity Model (EIMF):

Moving beyond a one-size-fits-all approach, the EIMF shall be used to benchmark all HLIs. This model will assess institutions on a scale from "traditional" to 'world-class' across dimensions like leadership, culture, financing, and industry linkages. The results will guide targeted capacity-building and funding.

c) Digitalize Research Administration:

Rollout of the Rwanda Higher Education Management Information System (RHEMIS) will be accelerated, with a specific focus on creating a national online research repository. This platform will serve as a central hub for tracking outputs, managing researcher profiles, and ensuring national visibility of all research activities.

Pillar 2: Foster Industry-Academia Linkages (The Triple Helix)

Objective: To eliminate the “ivory tower” concept and ensure co-creation in and for the end-user.

Focus: This pillar focuses on creating formal structures for collaboration, from curriculum design to joint research funding.

This pillar is central to transforming higher learning institutions in Rwanda into innovation-driven, impact-oriented ecosystems. It ensures that research is not conducted in isolation but is a collaborative process that addresses the genuine needs of the economy and society; and also, research does not remain theoretical but is translated into practical solutions, businesses, and policies.

Strategies:

a) Institutionalize Sector Working Groups:

The government shall formalise permanent Sector Working Groups that bring together representatives from government ministries, private sector firms, and HLIs. These groups will be tasked with identifying sector-specific research challenges, coordinating funding, and setting joint research agendas.

b) Embed Industry in Academic Programmes:

It shall become mandatory for all new academic programmes, especially at the postgraduate level, to demonstrate industry co-design. This means involving professional bodies and private sector partners from the very beginning of curriculum development to ensure graduate skills and research agendas are market ready.

c) Create Incentives for Private Sector R&D Funding:

The government shall introduce a framework of incentives, such as tax breaks or co-investment matching schemes, to encourage private companies to fund applied research contracts and partnerships with HLIs. This will create a more diversified and sustainable funding base.

d) Collaboration and Partnerships:

Strengthen University-industry linkages, Public-private partnerships, international research collaborations; and encourage Joint research programs and Mobility of researchers and students.

Pillar 3: Boost Research Output and Commercialization

Objective:


To enhance the quantity, quality, and impact of research output and convert knowledge into valuable products and services.

Focus:


This pillar focuses on the entire lifecycle of research, from the initial idea to its ultimate contribution to the economy: Converting knowledge into publications, patents, products, and spin-offs with clear economic value. Research must be both excellent and impactful.

Strategies:
a) Develop a Capstone-to-Publication Pipeline:

A systemic weakness is the low conversion rate of postgraduate theses into peer-reviewed publications. This framework mandates that HLLs establish structured support systems, including writing workshops, supervisory training, and publication funds; to ensure that a significant percentage of student research is disseminated.

b) Implement a National Technology Transfer & IP Strategy:

The government shall implement the National Technology Transfer and Commercialization Strategy. This involves supporting the creation of Technology Transfer Offices (TTOs) in major universities to manage IP portfolios, facilitate patent registration (with the Rwanda Development Board), develop prototypes, and broker licensing agreements.

c) Increase and Diversify Research Funding:

While Government Gross Domestic Expenditure on Research and Development (GERD) in Higher Education will be increased toward the 1.5% target (HESSP 2025-2030), this framework also mandates a diversification of sources. This includes scaling up competitive grants from the National Research and Innovation Fund (NRIF), establishing proof-of-concept funds, and actively pursuing co-financing from the private sector and philanthropic organizations.

Pillar 4: Develop Human Capital for Research and Innovation

Objective:


To establish a critical mass of highly skilled researchers, academics, and innovators.

Focus:


This pillar focuses on people who do the research, teach the students, and lead the institutions. Thus, investing in faculty qualifications, postgraduate training, and research leadership. A world-class research system requires world-class people.

Strategies:**a) Accelerate Faculty Qualification:**

The government shall invest heavily in initiatives to increase the proportion of academic staff with PhDs, moving from the current ~26% (HESSP) towards the national goal of 75% by 2035. This will be achieved through a combination of domestic doctoral training, strategic international scholarships, and the attraction of international talent.

b) Revitalize Postgraduate Training:

The quality of postgraduate supervision is paramount. This framework mandates the establishment of university-wide graduate schools to provide structured training, mentorship programs for supervisors, postgraduate examination governance, and vibrant research seminars. This will improve completion rates and the quality of doctoral graduates.

c) Implement Training of Trainers (ToT) Programs:

Building successful initiatives, the sector will launch scaled-up ToT programs focused on research entrepreneurship, grant writing, and innovation management. This ensures that academic leaders are not only excellent researchers but also skilled at leading teams and commercializing ideas.



Pillar 5: Deepen Internationalization and Collaboration

Objective:

▶ To establish Rwanda as a competitive regional education and research destination

Focus:

▶ This pillar aims to integrate Rwanda into the global knowledge economy. Leveraging strategic partnerships to enhance quality, visibility, and access to global knowledge networks. Global visibility and collaboration are essential for benchmarking quality and attracting investment.

a) Leverage Strategic Partnerships for Frontier Research:

Rwanda shall deepen and strategically manage its partnerships with leading international universities and global networks. These partnerships will be used to provide access to cutting-edge fields, co-supervise doctoral students, and engage in large-scale international research consortia.

b) Benchmark and Harmonise Programmes:

To facilitate the mobility of researchers and students, Rwanda shall embark on harmonizing and benchmarking academic programmes and qualifications within the East African Community (EAC). This will also ensure that Rwandan qualifications are globally recognized and competitive.

c) Attract and Retain Global Talent:

A concerted national effort shall be made to create an environment that attracts top international faculty and students. This will involve streamlining visa processes, providing attractive employment packages, developing world-class student support services, and actively promoting Rwanda as a destination for academic excellence through a "Study Rwanda" brand.

6| ACCOUNTABILITY - A PERFORMANCE-LINKED SYSTEM

To ensure that this Framework delivers results, a robust performance-linked accountability system shall be implemented. This system is designed to foster healthy competition, ensure transparency, and link funding to performance.

6.1 Institutional Categorization

To facilitate fair and meaningful comparisons in research and innovation performance HLI will be classified into appropriate tiers based on their institutional mandates, missions, and levels of maturity. This tiered approach ensures that institutions are benchmarked against comparable peers, promotes equitable performance assessment, recognizes institutional diversity, and supports evidence-based policy, planning, funding, and continuous improvement.

6.2 The HLI Scorecard: Key Performance Indicators (KPIs)

Performance will be measured annually using a standardized scorecard aligned with the strategic pillars of the Framework, with a total of 100 points.

Pillar Category	Weight	Key Indicators
1. Research Publication Output	20%	1.1 Publications per 100 academic staff (#) 1.2 Post-graduate theses converted into publications (%) 1.3 Publications aligned with national priority areas (%)
2. Innovation & Commercialization	25%	2.1 Patents filed and granted (#) 2.2 Spin-off companies created (#) 2.3 Industry research contracts (RWF) 2.4 Technology transfer/licensing revenue (RWF)
3. Industry-Academia Linkages	20%	3.1 Accredited programs with industry co-design (%) 3.2 Active, formalized partnerships with industry (#) 3.3 Student enrolment in work-integrated programs (%)
4. Capacity & Governance	15%	4.1 Entrepreneurial maturity (%) 4.2 Functionality of Research & Innovation (RIE) Unit (%) 4.3 Timely and accurate RHEMIS reporting (%)
5. Internationalization	10%	5.1 Publications with international co-authors (%) 5.2 International postgraduate students (%) 5.3 Value of internationally competitive research grants secured (RWF)
6. Community Capacity Impact	10%	6.1 Permanent staff PhD holders (%) 6.2 Graduate employment rate (%) 6.3 Community-based solutions/prototypes developed by students/staff (#) 6.4 Graduates alignment with national skill priority areas (%)

6.3 Accountability: Outcomes and Incentives

The annual scorecard will determine an institution's performance band, which will trigger specific consequences.

Performance Band	Score (% of Total)	Consequences / Incentives
Tier 1: World-Class Leader	≥ 85%	"Innovation Hub" Status: • Streamlined grant access, • Matched funding for infrastructure, • Increased programme autonomy. • Mandate for sharing best practices and recognition as an innovation hub.
Tier 2: High Performer	70% - 84%	"Standard Funding" status: • Full access to competitive grants, • Eligibility for performance-based top-up funding. • Subject to HEC quality assurance audits.
Tier 3: Developing Performer	50% - 69%	Targeted Support & Enhanced Monitoring • Conditional access to grants based on an approved capacity-building plan, • Mandatory mentorship with a top-tier institution. • Priority for targeted faculty development programs
Tier 4: Critical Support Needed	< 50%	Probationary Status & Corrective Action: • Suspension of competitive research funding, • Mandatory "Special Support Measures" plan overseen by HEC. • Notification of probationary status (transparency measure).

7| IMPLEMENTATION AND COORDINATION

Successful implementation of this framework requires clear coordination among major stakeholders:

Higher Education Council (HEC)

will act as overall regulatory, quality assurance body.

National Council for Science and Technology (NCST):

will drive the scientific research agenda and manage the National Research and Innovation Fund (NRIF), and spearhead initiatives such as the EIMF and the national research repository.

Higher Learning Institutions (HLIs):

are the primary implementers, responsible for internal reforms, embracing the EIMF, developing robust RIE units, and actively seeking partnerships with industry.

Private Sector and Professional Bodies:

are crucial co-creators, co-funders of research, and end-users of innovations and graduates.

8| MONITORING AND EVALUATION

Progress will be monitored using the above quantifiable measures, which will be in line with HESSP and EIMF. The efficacy of this Framework will be evidenced by the performance against the Key Performance Indicators and HLI classification in Performance Bands.



P.O. BOX: 6311

E-mail: info@hec.gov.rw

Web: www.hec.gov.rw