



UNIVERSITY of
RWANDA

UR INNOVATION POLICY AND STRATEGY

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CONTEXT AND PROBLEM STATEMENT

Innovation is understood as the introduction of new solutions in response to problems, challenges, or opportunities that arise in the socio-economic environment in poor as well as rich countries, in low-tech as well as high-tech, in services as well as manufacturing, in the public as well as the private sector¹. Innovation is the driving force for economic growth in today's knowledge based economy. Innovation is thus the engine in wealth creation, social welfare facilitation and international competitiveness. Bearing this in mind, the University of Rwanda's (UR) Innovation Policy is informed on one hand, by the Rwandan Vision 2020 and Vision 2050, driven by scientific and technological innovations to ensure high standards of living for all Rwandans. On the other hand, it is inspired by relevant international goals, such as Sustainable Development Goals (SDGs), as well as contemporary development trends, which present themselves both as challenges and opportunities; such as an unprecedented unemployment among the youth.

From an innovation perspective, unemployment naturally triggers creativity and the need to innovate, all leading to production of improved products, goods and service delivery. When this is supported by a well-coordinated mechanism, it may lead to wealth and jobs creation. ***In the absence of innovation policy, UR is deprived from smooth coordination of its innovation ecosystem, which constitutes a handicap to supporting creativity and innovation, especially on the students' side. This is the ultimate the problem the present UR's innovation policy intends to solve.***

UR's Innovation Policy aims at providing new solutions, which work in practice, to specific challenges faced by the society. It aspires to guide the UR community in significantly contributing to the Rwandan economy by fostering innovations that are relevant to the national needs and priorities.

This policy outlines the structures, frameworks and mechanisms required to bring a collaborative engagement of all UR colleges, schools, departments, students and staff into being active players and dedicated stakeholders in the University Innovation ecosystem and hence in the National Innovation ecosystem for the greater good of the Rwandan economy.

¹Jakob Edler, Jan Fagerberg (2017). Innovation policy: what, why, and how. *Oxford Review of Economic Policy*, Volume 33, Issue 1, 1 January 2017, Pages 2–23. (Accessed at <https://academic.oup.com/oxrep/article/33/1/2/2972712> on January 06th, 2010).

SECTION A: POLICY

Aim of the policy

The overall aim of this innovation policy is to create an innovation culture whereby solutions to socio-economic challenges of the nation are sought in pursuance to Rwanda Vision 2050. This policy further aims at assuring quality and fostering innovations that are an appropriate response to national needs and priorities as well as providing a framework for innovation and entrepreneurship at UR.

The present policy will **benefit** the University in various ways including:

- Offering guidance on management of innovations at University of Rwanda in line with institutional policies and strategic plan objectives, as well as best practices;
- Ensuring dynamic interaction among all players and foster a well-coordinated innovation culture among the students, staff and other stakeholders outside University of Rwanda;
- Providing a framework for identification of innovative ideas from students, researchers and other staff in collaboration with the community;
- Guiding the process of formation of innovation support facilities (e.g. Incubators & Science Parks) at the University of Rwanda;
- Fostering strong partnerships between the University, Government and Industry through collaborative innovative research and the use of University innovations.

Thus, the **strategic objectives** of this policy are the following:

1. To develop an embedded innovation culture across UR activities
2. To establish innovation facilities at UR
3. To equip students with innovation and entrepreneurship skills
4. To support innovation development
5. To strengthen university-industry collaboration
6. To engage in regional and international cooperation in innovation
7. To establish innovation cross-discipline thematic areas addressing key societal issues
8. To nurture UR postgraduate researchers to become future innovation leaders

Chapter I. DEFINITION OF KEY TERMS

In the context this UR Innovation Policy, unless otherwise required, the following terms shall have the meanings assigned to them herewith:

Accelerator:

A facility or an organization offering short term collaborative program aiming to help startups rapidly achieve a level of business growth, provide startups with the tools to establish strong value propositions and with valuable resources to help them design sustainable businesses.

and facilitate the development of projects in order for them to have the best chance of achieving external funding.

- The startups selected to enter an accelerator must be product/prototype ready with clear concepts that can be exploited.
- Thus, in the context of this policy, acceleration programs will only be offered to those startups graduating from Innovation Spaces/Green-houses (see “Innovation Spaces”).
- Accelerators are very timely/short-term (within a short three to four month period) and invest capital in return for a small equity stake in each startup taken into the program.
- Accelerators generally work very closely with corporates who partner with the concept, and as a result, startups are selected on the basis that they match the partner and investor requirements.

Benefit(s):

The contribution to the socio-economic needs of the society and includes capacity development, technology transfer, job creation, enterprise development, social upliftment and products, or processes or services that embody or use the Intellectual Property;

Business Incubation Center (BIC)

A Business Incubation Center (BIC) is a workspace created to offer startups and new ventures access to the resources they need, specifically to expert advisors in business, finances & law, to mentors, administrative support, office equipment, training, and/or potential investors, in order for them to become sustainable companies.

- BIC will provide their clients with services on a “one-stop-shop” basis (“all under one roof”).
- BIC will also host acceleration programs when appropriate.
- In the context of this policy, as for “Accelerator”, startups graduating from Innovation Spaces/Green-houses (see “Innovation Spaces”) are the ones admitted in the BIC.

Commercialisation:

The process by which any Intellectual Property emanating from research and development by UR’s Employees, Students and Visitors is or may be adapted or used for any purpose that may provide any benefit.

Creator/Inventor:

An individual or group of individuals to whom this Policy is applicable, who create or conceive (author), or otherwise make a substantive intellectual contribution to the creation of Intellectual Property. Creator thus means any person responsible for the content of Inventions and other works. Creator in this Policy has a same meaning as “*Inventor*”.

Discovery:

A discovery concerns something that already exists at the time of discovery, but was previously unknown. As a result of the discovery, nothing has changed apart from an associated increase in knowledge²." Discoveries are thus the first description of something that was previously unknown but which was already existing.

Therefore, a discovery is not same as *invention*. Invention concerns something that was not previously there (i.e something completely new). The definition of an *invention* is provided in the paragraph below.

DRI:

Directorate of Research and Innovation.

Entrepreneurship:

Entrepreneurship is the capacity and willingness to generate innovative ideas and use them to create, organize, manage a successful new venture, profit generating business(es) that present with a new life-changing solution..

Entrepreneur:

An entrepreneur is a person who sets up a business with the aim to make a profit in the context(s) described above under "Entrepreneurship".

Generation:

"Generation" means the creation, production, initiation, origination, inception, inspiration of something.

Incubators:

Incubator has a broad meaning, in the domain of assisting new startups with business development from idea generation. In the context of this policy, incubator will be used where there is a need to talk about "Innovation Spaces/Green-houses" and "Business Incubation Center" together. While the specific meaning of each one is provided in this policy, under Chapter I ("Use of Terms").

Innovation:

A new or original product or process. OECD (Organisation for Economic Co-operation and Development) defines innovation as follow "An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a

²Freie Universität Berlin, website (<https://www.fu-berlin.de/en/forschung/service/patente-und-lizenzen/entdeckungen/index.html>). Accessed on September 15th, 2019).

new organisational method in business practices, workplace organisation or external relation³.”

Innovation space:

Innovation space is a physical facility that supports interdisciplinary hands-on education, where students learn to deal with complex societal and industrial challenges, create prototypes and develop innovations in collaboration with researchers, businesses and each other.

Innovation spaces are open, flexible places where different kinds of professionals from all sectors come together to allow open innovation, and should have designs that are more comfortable, social and collaborative with innovation.

- Innovation space programs are long term, and seek to shape new startups at the idea stage into successful self-sustaining businesses.
- Still, while resources are provided, innovation spaces don't invest as much time in establishing pilot projects or shaping the startups to receive external investment. They don't always have such close affiliations with corporate partners. This is much dealt with in acceleration programs (see “Accelerator”).
- Startups graduating from Innovation Spaces/Green-houses are the ones that will be admitted in UR acceleration programs.

Innovation green-house

Innovation green-house is a physical facility that provides support in the growing of students' innovative ideas. In the context of this policy, “**Green-house**” is comparable to an “**Innovation space**”.

Innovator:

Innovator in this Policy is a person who introduces a new method or new procedures, a new idea, or a new product.

Invention:

Generally speaking, an *invention* is a new product or new process that solves a technical problem. This is different from a *discovery*, which is something that already existed but had not been found⁴.

The definition of a discovery is provided above.

³OECD (Organisation for Economic Co-operation and Development), 2005, “The Measurement of Scientific and Technological Activities: Guidelines for Collecting and Interpreting Innovation Data: Oslo Manual, Third Edition”; p146. (Accessed at <https://stats.oecd.org/glossary/detail.asp?ID=6865> on September 15th, 2019).

⁴WIPO (World Intellectual Property Organization), 2010, “LEARN FROM THE PAST, CREATE THE FUTURE: Inventions and Patents”; p. 5. (Accessed at https://www.wipo.int/edocs/pubdocs/en/patents/925/wipo_pub_925.pdf on March 16th, 2020). ISBN 978-92-805-1431-5.

Inventor:

Inventor in this Policy has a same meaning as “Creator”, as defined in the paragraphs above.

Intellectual Property (IP):

Intellectual property, very broadly, means the legal rights, which result from intellectual activity in the industrial, scientific, literary and artistic fields programs⁵. These rights are conferred to a variety of intangible assets, and refers to creations of the mind: inventions; literary, musical and artistic works; discoveries and inventions; and words, phrases, designs symbols, names and images used in commerce, and for which exclusive rights are recognized.. Intellectual property is divided into two categories: **Industrial Property** includes patents for inventions, trademarks, industrial designs and geographical indications. **Copyright** covers literary works (such as novels, poems and plays), films, music, artistic works (e.g., drawings, paintings, photographs and sculptures) and architectural design. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and broadcasters in their radio and television programs⁶.

Staff:

Shall mean any person employed by UR on contract or on permanent and pensionable terms.

Student(s):

A full-time or part-time student(s) of UR from undergraduate to post-graduate level, including students in training and post-doctoral fellows. ☑

Technology/innovation Development:

“Technology/innovation Development” in the context of this policy means the use of scientific and technological knowledge to solve practical problems.

Technology Transfer:

Technology Transfer, also called knowledge transfer, is the process of transferring skills, knowledge, technologies, methods, and facilities among governments or universities and other institutions to ensure that scientific and technological developments are accessible to a wider range of users; they can then further develop and exploit the technology into new products, processes, applications, materials or services. In simple terms, it is a transfer of all the above from the person or organization that owns or holds it to another person or organization.

UR Resources:

UR Resources includes, without limitation, UR facilities, office space, funds, financial or other administrative support, equipment, personnel, tangible research materials, information that is not feely available to the public, contract or other type of award or gift to UR.

⁵WIPO (World Intellectual Property Organization) (2004). WIPO Intellectual Property Handbook: Policy, Law and Use; Second Edition. WIPO Publication No. 489 (E) ISBN 92-805-1291-7. Page 3. (Accessed at <https://www.wipo.int/about-ip/en/iprm/> on January 6th, 2019)

⁶WIPO (World Intellectual Property Organization). What is Intellectual Property? (Accessed at <https://www.wipo.int/about-ip/en/iprm/> on January 6th, 2019).

Chapter II. MANAGEMENT OF INNOVATION AT UR

II.1. Management of Innovation at University level

The management of innovation and entrepreneurship at UR level is the responsibility of the UR Centre for Innovation and Entrepreneurship (UR-CIE). UR-CIE under the Deputy Vice Chancellor Academic Affairs and Research was established in 2017 to support and coordinate in a harmonized way all University innovation and entrepreneurship initiatives. Further UR-CIE is in charge of strategically encouraging and stimulating a culture of innovation and entrepreneurship within the University community. Besides, UR-CIE offers Intellectual Property and Technology Transfer services. On the other hand, innovation and entrepreneurship are implemented in the UR Colleges/Schools and academic Departments. In the context of innovation management, UR-CIE is responsible for the following:

II.1.1. Capacity building

UR-CIE shall facilitate the University Community to build a culture of innovation and gain innovation capacity by offering to staff and students training regarding innovation, intellectual property, technology transfer and commercialization, as well as entrepreneurship.

II.1.2. Support to innovation development and utilization

UR aims at generating successful innovations in the form of commercial product(s) or improved services(s) so that they become useful to communities outside the University. In order to ensure that innovations developed at UR are impactful, UR-CIE shall assist students and staff to bring ideas to life by providing them with support from project concept up to commercialization (development of innovative ideas up to prototyping, creation of startups, transfer of knowledge and innovations).

II.1.3. Partnership and networking

UR-CIE shall assist Researchers and Innovators to identify, connect and work with potential partners to allow them gaining collaborative advantage by engaging external resources to find solutions for specific problems faced by communities. Thus, UR-CIE shall facilitate partnerships by advising on:

- Who should be and how to cooperate with partners outside the University to complement their innovative projects.
- Collaborative agreements with partners. This shall be done in coordination with the UR Legal Department).



II.1.4. Innovation policy services

UR-CIE shall work with the UR-Directorate Research and Innovation in developing and reviewing UR policies and strategies on Innovation and related topics such as IP, Technology Transfer and Commercialization. Thus UR-CIE shall:

- Educate College Members on topics of UR innovation policies, and advise on their implementation.
- Navigate Innovation strategies by helping Colleges to determine the innovation strategy to decide on which type of innovation will help the Colleges gain competitive advantage.
- Articulate the implementation of the UR policy in the context of relevant national policies

II.1.5. Entrepreneurship skills development

UR-CIE shall support the delivery of the Entrepreneurship module by providing spaces and opportunities for the students to put theory into practice

II.1.6. Intellectual property services

The following Intellectual Property services shall be offered by UR-CIE:

- Management of invention disclosures
- Protection of Intellectual Property created from UR Colleges and Schools
- Management of Intellectual Property assets of UR
- Technology Transfer and Commercialization

The details regarding Intellectual Property services are elaborated in the “UR Intellectual Property Policy”.

II.2. Management of innovation at college level

II.2.1. College Directorate of Research and Innovation

Innovation and entrepreneurship shall be implemented in the UR Colleges, Schools and Departments. The College Directorate of Research and Innovation shall be responsible for supporting these academic units in implementing staff and students’ innovations in accordance with provided for guidelines. UR-CIE shall closely interact with College DRIs for support of innovation and entrepreneurship activities.

There shall be specific terms of reference of College DRIs on how to deal with matters relating to research, innovation and entrepreneurship.



II.2.2. Innovation management at school Level

The Dean of the School shall have the responsibility of coordinating innovation and entrepreneurship efforts at school level, liaise with the College DRI in promoting innovation development in the School.

In order to practically foster innovation at UR, innovation should be added in Schools attributions and designating the responsible official at School and Department levels.

II.2.3. Innovation management at department level

The Head of Department have the responsibility of coordinating innovation activities at Department level in the same way teaching and research are coordinated.

- Staff involved in innovation shall be allocated enough time for innovation.
- Students should be supported and mentored first at department level to allow them to generate innovative ideas and prototypes in their respective fields. The Department shall be responsible for referring, when appropriate, the student(s) with innovative ideas to Incubators established in the campuses. The Head of Department shall liaise with the Dean of the School to support innovation activities, or to seek any help or guidance when it comes to innovation matters.

SECTION B: INNOVATION STRATEGY

Chapter III. UR STRATEGY FOR INNOVATION

University of Rwanda wants to position itself as “a leading University that develops highly enterprising graduates prepared and dedicated to building a more just and sustainable society locally, nationally and globally, with appropriate innovations that advance quality of life”. The University approach toward realizing this ambition encompasses, but not limited to the following:

- Developing an embedded innovation culture across UR activities
- Establishing innovation facilities at UR
- Equipping students with innovation and entrepreneurship skills
- Strengthening university-industry collaboration
- Engagement in regional and international cooperation in innovation
- Establishing innovation cross-discipline thematic areas addressing key societal issues
- Nurturing UR postgraduate researchers to become future innovation leaders

III.1. Developing an embedded innovation culture across UR activities

Through the following strategic actions:

- Adopt clear principles outlining how UR defines innovation and integrate these principles into workload allocation, performance indicators, promotion criteria, and future strategic planning.
- Ensure that all early trained academic staff are integrated into the innovation culture of academic departments and schools.
- Introduce new excellence awards for the best performers, celebrating success in bringing together teaching, research and innovation.

The rewarding ceremonies should bring together UR community and be an opportunity to recognize the accomplishments across academic disciplines.

III.2. Establishing innovation facilities at UR

An efficient environment is prerequisite for innovation to take place at the University of Rwanda. To create this environment, UR will establish

- **Incubators** and **innovation spaces** to allow students access to a favourable environment to innovate and to promote the engagement in nurturing innovative ideas, networking with local entrepreneurs and innovators;
- **Innovation Science Parks** hosting technical and business facilities to allow synergy when coaching and mentoring students.
- **State-of-the-art laboratories** accessible to UR faculty to allow linking quality research to innovation in selected major fields.

Such an infrastructure will improve the capacity and capability of UR students and researchers to seek competitive innovation grants and to engage with end users of innovations, both nationally and internationally.

III.2.1. Incubators, innovation spaces and innovation science parks

Because of the relationship between these facilities and students' innovations, a comprehensive description of the function of **incubators, innovation spaces** and **innovation science parks** is described under Chapter 4, elaborating on the mechanisms of "*Identification and Mentoring of Students' Innovations*" (see section IV.1.).

III.2.2. State-of-the-art facilities

State-of-the-art laboratories for leading research faculty in the major scientific fields will be established to allow a critical mass of available research personnel to create the needed knowledge addressing societal challenges. Such facilities will contribute to increasing student engagement and learning outcomes. Indeed, these facilities will constitute an intentional effort to bolster the integration of research with high-quality education in the undergraduate student experience and innovation. These facilities will attract a good number of PhD students,

who will work on identified problems from the society, and will be established in identified departments and research centers. This will mandatorily require preliminary works on the field to gather more knowledge of the challenges faced by different communities. For this reason, clusters in selected economic sectors will be created to serve as a platform whereby research discussions and co-creation can take place.

III.3. Equipping students with innovation and entrepreneurship skills

Promoting innovation and entrepreneurship among students shall be through:

III.3.1. Embedding teaching curriculum with innovation and entrepreneurship skills

A curriculum for innovation and entrepreneurship teaching over 3 years was integrated in the education system of UR at undergraduate level. This needs to be extended to postgraduate programs with more practical approaches. With enough skills in innovation and entrepreneurship, students can subsequently get involved in ideation and transforming ideas into businesses and companies. In this endeavour, UR shall ensure that the needed resources (human, financial, infrastructure) are made available in colleges and campuses in order to offer required support to students, helping them to develop further their innovative ideas. Additional details are provided under section IV.1.

III.3.2. Exposing the students to the real world environment through internships and attachment to communities, private and public institutions.

This approach will engage the students to own their environment and its challenges, thus bringing them to use their knowledge in ideating appropriate solutions that can be further developed into sustainable innovations.

III.3.3. Organizing entrepreneurship extra-curricula training sessions, boot-camps, pitching and competitions.

These opportunities will teach the students how to think beyond the classroom, enabling interdisciplinary collaboration and providing a platform to learn practical skills allowing the students to turn innovative ideas into businesses, access to venture funding, etc. Additional details are provided under section IV.1.

III.4. Support to innovation development

One of the UR objectives is to increase the participation of UR researchers in the society to benefit national and regional development, by supporting collaborative innovation projects at UR. UR intends to use the expertise available to bring solutions to the needs expressed by the

society. It is in this context that UR shall avail financial and logistical support to collaborative innovation projects involving partners and stakeholders (end users and beneficiaries).

a) UR shall launch calls for proposals for collaborative innovation projects twice a year, depending on the availability of the budget and administrative requirements.

b) The projects shall aim at providing solutions to real problems faced by the communities through the collaboration of the UR, public and private sectors, and the beneficiaries. The proposals should, therefore, reflect collaboration with those stakeholders, indicating that they (proposals) should come from a collaborative partnership between Members of UR Colleges and Partners outside the University to ensure (a) addressing a real problem from the community, and (b) project ownership by external stakeholders, hence guarantying sustainability and later use of it.

c) Areas of support

- Ideation (development of innovative idea)
- Prototyping (development of the working prototype(s))
- Testing of the prototype(s)
- Knowledge/Technology Transfer, Commercialization
- Intellectual Property Protection

UR-CIE reserves the rights to call for proposals covering all the above areas, few of them or only one of the areas; depending on the availability of the budget, time constraints or administrative requirements. Any proposal should meet below selection criteria.

d) Criteria for selection

The proposed project shall meet the following UR criteria for innovation projects:

- The project shall be jointly developed and implemented with identified *partners* from the public and private sectors, civil society and NGOs to be able to identify/address a real life problem;
- The project shall contribute to the *country's priorities* (Relevance to the National Development Agenda);
- The project shall respond/bring solutions to *identified problem(s)* in the Country/community/society;
- The project shall be supported by *evidence of actual or prospective demand*; and
- The project shall describe clearly the innovation and how it is expected to work;
- The proposal shall clearly indicate the beneficiaries of the project outcomes; should *benefit* the stakeholders such as Industry, Policy Makers, Farmers, Community Groups and Private sector (i.e. justification of the innovative aspect of the proposed project) (benefits should not be restricted to the individual applicant, or his/her family);

- The proposed innovation project shall demonstrate *sustainability* in terms of its completion, continuation and exit strategy (i.e. applicability).
- The proposal shall demonstrate what raw materials it will use to make the proposed innovation and indicate the source of the materials.

In addition the proposed innovation project shall demonstrate whether:

- The project team has the practical capability to deliver the project;
- The targets, indicators and milestones are realistic and measurable;
- The need for funding is clearly demonstrated;
- There is value for money, i.e. the balance of proposed costs and UR support vs the outcomes sought (e.g. in comparison with other initiatives for example).
- The proposed innovation project demonstrates high degree of local *appropriateness* in terms of its intervention and its delivery method;
- The intended innovation is “environmental friendly” (will positively affect the environment / will not negatively affect the environment).

e) Call for proposals

The call shall specify the following, but not limited to:

i. Template format

UR-CIE shall avail a detailed template that will be attached to each call for proposals, every time the call is launched. The template will be based on the above criteria, and will indicate the number of words (maximum) for each section to be developed by the applicant.

ii. Deadline for submission of proposals

iii. Selection process

iv. Timeline

Flow of events and timeline from the launch of the call until announcement of the selected proposals and the start of the project implementation

v. Contact person

The contact person and his/her contact details in case additional information is needed from applicants.

f) Beneficiaries

- Students

The academic Department where the student comes from should assign a Project Leader from the Members of the Faculty to mentor the Student(s) and to be responsible for administrative and legal matters associated with the project. But the project should remain the student property.

- UR researchers from members of the faculty
- UR employees

The application from an administrative employee should be supported in writing by (a) their respective unit and (b) Deputy Vice-Chancellor having Innovation in his/her attributions.

g) Submission and evaluation of proposals

- Proposals should be submitted through the College Principal to the Deputy Vice Chancellor having Innovation in his/her attributions. UR-CIE shall advise on any appropriate submission method (e.g. electronic) pending that it is approved by the Deputy Vice Chancellor having Innovation in his/her attributions
- Proposals should have a proof according to which they have been discussed at Department level and approved by the respective School.
- The Deputy Vice Chancellor will set up an **adhoc** "Review Committee" composed of between five and ten Members, assigned to review innovation proposals. In case where funds come from partner organizations or involve partnering with other universities/institutions, representatives of partner organizations or/and partner universities/institutions shall be part of the Committee.
- The Review Committee will first elect a Chair in its first meeting. The Director for CIE shall be the Secretary to take the minutes.
- The Review Committee will evaluate the eligibility of the proposal(s), and determine whether they qualify for seed funding. The Committee will review the proposals according to the criteria put in place by the University, sign (all members) on the minutes which will be archived at UR-CIE for administrative use.

III.5. Strengthening university-industry collaboration

The main purpose of the linkage between universities and industry is to encourage relevant and innovative university research, and thus improve the capacity of industry to absorb and utilise university-generated knowledge and innovative research results. Consequently, such linkage motivates industry stakeholders to invest in University promising innovative research. University-industry partnerships are mutually beneficial because knowledge and resources are shared to achieve common goals.

Therefore, by strengthening this partnership, UR will benefit through improved educational opportunities for its students, commercializing its innovations, and generating income from licensing agreements and ventures, whereas collaborating industry will benefit from access to scientific expertise and infrastructure, intellectual property, product or systems development and business opportunities.

This partnership will allow UR to make good use of its resources including but not limited to human and intellectual capital as well as R & D infrastructure.

The starting point shall be the organization of **innovation seminars at Colleges and Schools level**. Such College/School innovation seminars shall:

- Involve students and the College/School faculty, and the partners of the respective Colleges/Schools shall be invited from the Institutions (public and private) operating in the same discipline/area as the College/School, as well as identified beneficiaries and communities.
- Present opportunities where the students and the faculty can share their innovative ideas. During these seminars, Colleges shall demonstrate their achievements in the area of innovation.

This platform will enable the following:

- Attracting the partners to work with the respective UR Colleges in answering to some of the challenges they face during their daily businesses, hence open doors to collaboration between the University community and industry. UR will encourage MoUs and agreements between Colleges/Schools and partners.
- Partners will have more trust in what UR can achieve.
- Attracting the University community to move from traditional research to innovative process including the development of commercial technologies.
- Opening the room for inter-project collaboration within each respective College.

UR shall adopt a number of other strategies for encouraging its linkages with industry as appropriate.

At baseline in order to increase transparency and encourage industry cooperation, the linkage between UR and industry will be facilitated by two important policies; the “**UR Intellectual Property Policy**”, and the “**UR Industry-Government-Academia Collaboration Policy**”. The former will elaborate in details the argument of this section

III.6. Engagement in regional and international cooperation

Engaging in regional and international cooperation will allow UR **to develop internationally recognized research and innovation staff**. UR will extend its collaboration with regional and international organizations operating in the area of innovation, Intellectual Property and Technology Transfer with the intention of benefitting from new developments and international expertise in the area of innovation, mobilizing funds, and obtaining any other support, regarding design/review of regulations, laws, policies.

III.7. Establishing innovation cross-discipline thematic areas addressing key societal issues

Through the following strategic actions:

- Establish relevant cross-disciplinary innovation themes in consultation with key external stakeholders.
- Engage with national and international networks that align with UR thematic areas.

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- Foster interdisciplinary innovation that leads to increased UR impact.
- Ensure that existing and new research and innovation centres (e.g. UR Centers of Excellence) and other similar Institutes/Units align their work and plans with UR innovation themes at every opportunity.
- Make effective use of UR innovation themes to coordinate and enhance staff and student engagement with the end-users of innovations generated at UR (locally, regionally and globally).
- Develop areas of current and potential excellence across all UR Colleges/Schools and strengthen UR innovation capabilities in those areas.

III.8. Nurturing UR postgraduate researchers to become future innovation leaders

Through the following strategic actions:

- Embed innovation expertise within taught postgraduate curricula wherever appropriate, and develop channels for PG students input into innovation activities.
- Improve UR postgraduate deliverables by institutionalizing the move from traditional to innovative research leading to providing solutions to the real world challenges faced by the society, and enhancing UR faculty capacity to supervise innovation projects at postgraduate level.
- Create opportunities for collaborative supervision and other engagements with key innovation partners nationally and internationally.
- Foster multi/inter-disciplinary innovation that leads to enhanced postgraduate relevance hence increased UR impact.
- Direct strategic funding for postgraduate researchers towards projects in UR innovation thematic areas in order to support and sustain UR thematic focus.

Chapter IV. IDENTIFICATION AND MENTORING OF STUDENTS' INNOVATIONS

IV.1. Developing students' innovation and entrepreneurship capability

According to 2016-2025 UR Strategic Plan, UR committed itself to “Ensure students have the leadership, entrepreneurship and management skills needed to create employment” and to “Develop continuous education programs for upgrading skills and knowledge”. In order to reach these objectives, UR in the same Strategic Plan set strategies including to “Ensure that UR curricula are tailored to meet areas of national need”. It is in this context that:

a) UR mainstreamed **innovation and entrepreneurship into the curriculum**. The introduction of this module into the curriculum shall be key to the student-centred learning approach designed to equip UR students with the necessary innovation and entrepreneurship knowledge and skills for them to creatively engage in responding to societal

needs and contribute to job creation.

- This module shall be taught to all UR students enrolled in all UR Departments, without exception.
- UR commits itself to ensuring quality teaching of this innovation and entrepreneurship module by making sure that the lecturers have the required knowledge, skills and pedagogical methods to deliver this module.
- UR commits itself to put in place mechanisms of monitoring deliverables of teaching this module, especially by making sure that this teaching is more practical than theoretical.
- The monitoring report of this module shall be submitted to the Deputy Vice-Chancellor having innovation and entrepreneurship in his/her attributions every quarter and an annual report should be submitted one month after the end of each academic year.
- This implies to nominate a focal point person from the College assigned to coordinate the teaching of this module, who should be responsible for designing a reporting format (should be approved by the Deputy Vice-Chancellor having innovation and entrepreneurship in his/her attributions) and for periodically reporting as mentioned above.
- ***Lecturers of this module are required to encourage students' innovations and whenever any one is identified should be referred to the College/Campus Incubator (where it exists) through the Head of Department/Dean of School. The former may liaise with UR-CIE for any support and guidance that might be needed.***

Additional details regarding this module of innovation and entrepreneurship are provided under section III.2.

b) UR-CIE shall organize **entrepreneurship and innovation training workshops** for students aimed at complementing above mentioned module by equipping students with practical skills regarding (but not limited to) ideation/idea development, prototyping, and turning ideas into business. Additional details are provided under section III.2.

- These training workshops shall be organized in collaboration with Colleges to also complement efforts made by the Departments/Schools in coaching students in idea development and prototyping as described in the sections below.
- UR-CIE shall liaise with appropriate Incubators (at UR or outside UR in one of the collaborating Incubators) to admit the promising identified students ideas and innovations from these training workshops; Colleges/Schools/Departments where the student(s) is coming from will talk to for any support that will be needed.

Incubators established in all the Campuses shall take the lead of organizing such tailored innovation and entrepreneurship trainings, which will reduce the number of central trainings.

- UR-CIE shall keep playing the role of supporting the organization of these workshops by mobilizing resources and partnerships to support campus Incubators.

Approved by the Board of Governors held on 14th October 2020

- UR-CIE shall help a smooth transition between the two approaches by helping Incubators to start taking this training role in innovation, entrepreneurship and intellectual property.

IV.2. Admission to incubators at UR

a) *Innovation spaces/Green-houses*

UR aims at establishing in its campuses Innovation Spaces/Green-houses where innovative ideas from students will be generated and nurtured. These are considered as knowledge and ideation hubs, and will only admit students, not the staff.

b) *Business Incubation Centres (BIC)*

UR also aims at establishing Business Incubation Centers (BIC) in the campuses with the mission of providing students with business incubation services and business coaching towards creation of startups.

Admission and Interconnection between Innovation Spaces/Green-houses and BIC

Both Innovation Spaces/Green-houses and Business Incubation Centers (BIC) are referred as “**Incubators**” in the context of the UR Innovation policy. They will work closely since ***graduates from Innovation Spaces/Green-houses are expected to be admitted into BICs for business coaching on their prototypes.*** For clarity, refer to Chapter I (“Use of Terms”) to get a clear meaning of Innovation Spaces, Innovation Green-houses, BIC and Incubator.

Students will use these facilities on a rotational basis in accordance with the procedures in place. These facilities will complement efforts made by the students’ respective Departments/Schools where students are usually trained from, and where they are also expected to get innovative ideas from.

UR shall develop a plan of training its staff in order to equip them with skills in the provision of incubation services in its Incubators. Priority will be given to the staff who will be hired to manage UR Incubators.

Management of UR incubators

- The Managers of Incubators shall be answerable to the Director of the UR Center for Innovation and Entrepreneurship (UR-CIE), regarding technical matters.
- Administratively, they shall be answerable to Campus Management, since they are campus-affiliated facilities, rather than College ones.
- UR-CIE and the Campus Management shall work closely to ensure smooth running of Incubators.
- UR-CIE shall have an Officer dedicated to the following up and supporting Incubators

established in various campuses, as well as gathering of data from Incubators and harmonizing practices under the guidance of the Director of UR-CIE.

- The Director of UR-CIE shall annually submit a report of the above to the Deputy Vice-Chancellor having Innovation in his/her attributions for necessary directions/guidance.

IV.3. Admission into innovation science parks

Created startups shall undergo acceleration program(s) in order to be developed into sustainable companies. Acceleration program(s) shall be designed accordingly.

UR-CIE shall liaise with UR Enterprise regarding the management of the created companies.

UR shall put in place the mechanisms of establishing Innovation Science Parks where UR-born companies will be admitted and based. Ideally, Innovation Science Parks shall host both Incubators and UR-born companies to allow synergy, ease students' attachment, and quality mentoring and coaching. This arrangement will allow close monitoring and supporting the newly created companies to increase their survival rate.

If need be, identified "State-of-the-art laboratories" (see section III.1.2.) can belong to the Science Park, under the approval of UR Senior Management on the recommendation of the Deputy Vice Chancellor having innovation in her/his attributions.

IV.4. Procedure for identifying students' innovative ideas

In order for an innovation to attain its full growth to commercialization, a number of actors (internal and external) must be involved in a multi-disciplinary undertaking.

Departments and Schools of UR shall be involved in identification of innovative ideas and subsequently in mentoring the process in a joint collaboration as follows:

1. Innovation ideas may emanate from any Department/School of UR, or may be generated from Innovation Spaces/Green-houses established in campuses at UR. It is the responsibility of the Department/School to identify innovative ideas from the students of their Department/School.
2. Under ordinary situations, applications for admission of innovations are sent to the Incubator by innovators, who also shall inform her/his respective Department and School.
3. Department/School of UR, which identifies an innovation or innovation idea(s) among the students and staff, should assist first in fine-tuning the students/staff innovation idea towards prototyping.
4. When the student has a prototype, the Department/School should assist the student with

prototype(s) in referring him/her to the BIC established in their respective campuses, or to the nearest BIC for admission and coaching in accordance with BIC procedures.

5. The mentoring and nurturing of the innovations admitted in the Incubator is then undertaken by professional mentors drawn from relevant Department/School under the coordination of BIC.

Admission, mentoring and exit of students from a BIC shall be in accordance with BIC processes and procedures.

The Management of BIC shall make sure that 85% of the space in the Incubator is dedicated to UR students while the remaining 15% shall be for UR staff. More space shall be allocated to UR staff in cases where there aren't enough UR students to occupy the 85%.

Innovations may however be nurtured at the individual Departmental/School levels without having to be sent to the Incubators if the innovator finds the necessary support at their Department(s)/School(s).

In case any prototype(s) development or innovation(s) admitted or being admitted in the incubator, or being initiated at Department/School level needs seed funding, a written project proposal(s) along with a request(s) for seed funding will be submitted to the Deputy Vice Chancellor having Innovation in his/her attributions following the procedures described under section III.3, from point (a) to point (g).

Especially, the academic Department where the student comes from is requested to assign a Project Leader from the Members of the Faculty to mentor the Student(s) and to be responsible for administrative and legal matters associated with the project. But the project should remain the student property.

IV.5. Need for external involvement and collaboration

a) Situations where innovators are not UR students/staff

In situations where innovators are not UR students/staff, the innovation/innovator will be admitted in the Incubator after payment of the fees approved by UR, and documented in "UR Fee Structure Book". Mentoring shall be offered as specified above. The Management of Incubators shall make sure that 90% of the space in the Incubator is dedicated to UR students/staff while the remaining 10% shall be for non-UR students/staff. More space shall be allocated to non-UR students/staff in cases where there aren't enough UR students/staff to occupy the 90%.

b) External partners involved in mentoring of innovations at UR

Whenever the situation demands, external partners from the Government/Public Institutions, Private Sector and Civil Society shall be involved in the mentoring and commercialization of innovations at UR provided that such partnerships are guided by specific MOUs/Agreements.

UR shall therefore sign a Memorandum of Understanding (MoU)/Agreement with individual, partnering organizations, whether public or private, which are involved in identification, nurturing and/or commercialization of innovations. This shall hold true for all innovations whether nurtured under UR Incubators or separately at the departments/schools. The MoU to be signed must spell out the specific roles of each stakeholder. Where applicable (e.g. where the partner/collaborator has made a significant contribution to the creation of IP), the same MoU shall also clarify IP matters, as detailed in section IV.6.

c) Collaboration with local Incubators and experts

UR-CIE shall enter into collaboration with selected Incubators operating in Rwanda in order to be able to benefit from external expertise by exchanging ideas and sharing best practice. This arrangement may also allow UR to provide incubation services in campuses where UR is still to establishing Incubators.

UR shall enter into partnership with Institutions, Organizations and Individuals with expertise in providing incubation services to support its Incubators, while training its own personnel to take the lead at the end of the partnership(s), if not continued.

d) Collaboration within the National Innovation System

As elaborated above, a number of internal and external actors must be involved in order to reach the final stage of commercializing an innovation. In addition innovations nurtured at UR shall be benchmarked using nationally and internationally approved and renowned standards. Consequently, UR-CIE in collaboration with UR Incubators and various Schools/Departments shall work very closely with all the relevant agencies of the Government of Rwanda such as, but not limited to, the Ministry of Education (MINEDUC), the Ministry of ICT and Innovation (MNICT), National Council for Science and Technology (NCST), National Industrial Research and Development Agency (NIRDA), Rwanda Standards Board (RSB) and any other bodies that may be deemed relevant to the objectives of this policy. The collaboration with RSB should be given weight to ensure the quality of innovations created at UR, as to make sure that they are nationally and internationally competitive.

Through its Innovation Policy, UR will strive to have its presence and contribution felt and appropriately acknowledged by each partner/collaborator/actor.

IV.6. Intellectual property matters

a) In UR incubators

All intellectual properties and innovations must be disclosed in accordance with UR Intellectual Property Policy. Thus UR Departments/Schools as well as Managers of incubators established at UR (Innovation Spaces/Green-houses and BICs) must have thorough knowledge of UR Intellectual Property Policy.

b) In case of collaboration on innovation

UR in collaboration with relevant stakeholders will identify, nurture, recognize and protect intellectual property rights of each innovator whose innovation is nurtured under UR. This collaboration shall be backed by a signed MoU, as described above in the section IV.5. (b).

Regarding Intellectual Property matters, this MoU must spell out the sharing of patents/copyrights and procedures of their identification in accordance with UR Intellectual Property Policy in the event that the other party has no IP Policy. In case the other party has it, then a separate agreement shall be agreed upon, stating agreed arrangements regarding IP matters, including dispute resolution.

Signed:

Prof. Philip Cotton
Vice Chancellor



Annex. Implementation matrix of UR Innovation policy

This innovation policy proposes an implementation action plan for a 5-year period (2021 – 2026). Strategic actions to be implemented per policy objectives in order to attain the policy goals are provided in the table below. A detailed elaboration of proposed strategies is provided under chapter III. The timeline is proposed in the short term (activities that should be within a period of one year), medium term (period of between two and three years), and long term (during the period until the end of the planning period).

Strategic action	Timeline
Strategic objective 1: Developing an embedded innovation culture across UR activities	
Adopt principles outlining how UR defines innovation and integrate these principles into workload allocation, performance indicators, promotion criteria, and future strategic planning.	Long term
Introduce new excellence innovation awards for best performers	Medium term
Ensure that all early trained academic staff are integrated into the innovation culture of academic departments and schools. ☑	Medium term
Strategic objective 2: Establishing innovation facilities at UR	
Establishing innovation infrastructure (Incubators, innovation spaces and Innovation Science Parks, State-of-the-art laboratories)	Long term
Strategic objective 3: Equipping students with innovation and entrepreneurship skills	
Embed innovation expertise within UG curricula	Medium term
Exposing the students to the real world environment (internships, and attachments)	Long term
Organizing entrepreneurship extra-curricula training sessions, boot-camps, pitching and competitions.	Long term
Strategic objective 4: Support to innovation development	
Mobilize funds to support and drive strategic innovation initiatives. ☑	Long term
Promote opportunities and develop skills☑for early and mid-career researchers	Long term
Strategic objective 5: Strengthening university-industry collaboration	
Developing a framework for linkage and partnerships between UR and industry	Medium term
Raise the profile of the University and extend UR influence through targeted innovation forums for key stakeholders	Long term
Establish collaborative platforms and spaces where industry and members of UR community (students and staff) can co-create innovative solutions.	Long term

Develop comprehensive CPD programmes for government, industry and third- sector partners	Long term
Support knowledge exchange activities that ensure UR best innovations are readily translated into action	Long term
Strategic objective 6: Engagement in regional and international cooperation	
Extending collaboration with regional and international organizations operating in the area of innovation	Long term
Provide opportunities for attachments to and interaction with recognized external/international innovation organisations	Long term
Implement means for staff at all career stages to benefit from international networking and collaboration in innovation	Long term
Implement a programme of distinguished visiting scholars with key partner institutions/universities	Long term
Strategic objective 7: Establishing innovation cross-discipline thematic areas addressing key societal issues	
Establish relevant cross-disciplinary innovation themes in consultation with key external stakeholders	Medium term
Engage with national and international networks that align with UR thematic areas	Long term
Foster interdisciplinary innovation that leads to increased UR impact	Medium term
Ensure that existing and new research and research centres at UR align their work and plans with UR innovation themes at every opportunity. ☑	Long term
Make effective use of UR innovation themes to coordinate and enhance staff and student engagement with the end-users of innovations generated at UR	Long term
Develop areas of current and potential excellence across all UR Colleges/Schools and strengthen UR innovation capabilities in those areas.	Long term
Strategic objective 8: Nurturing UR postgraduate researchers to become future innovation leaders	
Embed innovation expertise within taught postgraduate curricula wherever appropriate	Medium term
Improve UR postgraduate deliverables by institutionalizing the move from traditional to innovative research leading to providing societal solutions	Long term
Create opportunities for collaborative supervision and other engagements with key innovation partners nationally and internationally	Medium term
Foster multi/inter-disciplinary innovation that leads to enhanced postgraduate relevance, hence increased UR impact.	Long term
Direct strategic funding for postgraduate researchers towards projects in UR innovation thematic areas in order to support and sustain UR thematic focus.	Long term