RWANDA POLYTECHNIC RESEARCH AND INNOVATION POLICY

CONTENTS

DEFINITIONS FOR KEY CONCEPTS

- **Research and Innovation (R&I) output:** Whatever product resulting from the R&I process; whether a contributed design, prototype, product, journal article, conference paper, or a book. The RP research and innovation policy refers to the Frascati Manual and Oslo Manual as guiding frameworks for Research and Innovation output indicators.

- **Technology Transfer:** Technology transfer (or tech transfer), in the context of research institutions, is the process by which new inventions and other innovations created in those institutions' labs and workshops are turned into products, availed, accessed and used (Valorized or commercialized). For this policy, this is expected to be mainly done in two ways: through licensing patented intellectual property to corporations, and the creation of start-up companies, which also often license the IP created by faculty.

- **Commercialization:** The process through which an invention or innovation emanating from research and development involving employee, student and visiting researcher or collaborator is adapted or used for any purpose that provides any revenue or benefit.

- **External stakeholders:** Persons or organizations who do not have a direct relationship with RP but that have an interest in and can either affect or be affected by the actions and outcomes of RP policies or undertakings.

- **Innovation:** OECD defines innovation as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization, or external relation.

- **Intellectual property:** Legal rights that result from intellectual activity in the industry, scientific, artistic, and literary fields program.

- **Invention:** A new product or a new process that solves a technical problem.

- **Plagiarism:** The practice of taking someone else's work, words, thoughts, or ideas and passing them off as one's own. Plagiarism includes, but is not limited to, copying material and using ideas from an article, book, unpublished paper, or the Internet without proper documentation of references or without properly enclosing quoted material in quotation marks.

- **Quality:** Compliance to set standards, fitting customers' needs (fitness for purpose), efficient and effective (value for money), and transformative (includes empowerment and enhancement of customer satisfaction).

- **Research collaborations:** All collective endeavors implying a mutual research involvement of researchers and/or institutions.

- **Research clusters:** In the context of this policy, research clusters are amalgamations of researchers whose research interest is applied either to a common area, field, or theme; or who are involved in a collaborative research project, or a set of co-related projects established across one or different colleges or even beyond their mothering institution (RP).

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- **Research group:** In the context of this policy, a research group is an entity of peer researchers based in one college, or more, and having one thematic area working together on a particular issue, topic, or project.

- **Research (or innovation) centers**: are centers that undertake R&I activities beyond or different from individual research activities with a nature that contributes to RP strategic goal or specified mission; which may require the employment of specially dedicated staff either part-time or full-time.

POLICY CONTEXT

Rwanda Polytechnic (RP) is a public Higher Learning Institution established by the Law N° 22/2017 of 30/05/2017. It is an organ that has legal personality with a trifold mission of teaching, research and innovation, and community services/outreach/engagement. The vision of RP is to provide a quality education that complies with applicable standards through technical education.

RP stands to support the strategic ambition of Rwanda to leverage the transformative potential of Science, Technology, and Innovation to position itself as a globally competitive knowledge-based economy. Since its foundation in 2017, the RP's mission has been to carry out and promote research and technology in technical fields, disseminate findings to foster national development; participate in the discovery, exchange, and preservation of knowledge in the technical field; and to contribute in finding national development solutions. Thus, a clear policy for Research and Innovation (R&I) is the mainstay of the RP success.

RP recognizes R&I as an essential element of its mandate. To that end, R&I policy proves to be a very important tool to streamline the implementation of related activities over all colleges and bridge the existing gap within. This includes funding, coordination, ownership, ethics, enticement of researchers and innovators, collaboration and community outreach regarding inventions or innovations. Moreover, this policy is expected to ensure the efficient use of existing training facilities like labs, workshops, conference/seminar rooms, libraries, and online resources.

RP's contribution to the outcome of the Rwanda development plans must be aligned with the Rwanda Education Sector Strategic Plans that clarify the strategies to ensure that Rwandan citizens have sufficient and appropriate competencies to drive the continued social and economic transformation of the country. R&I is responsible for various outcomes expected from national development plans, including increased home-grown solutions and innovations, accelerated industrialization for economic transformation, increased share of exports, increased access to basic infrastructure, and increased decent and productive jobs.

A. Fundamental/Basic/Pure research versus applied research

In the context of this policy, Fundamental Research aims to answer the initial question of how things work. Basic research does not have immediate commercial objectives and although it certainly could, it may not necessarily result in an invention or a solution to a practical problem. Whereas, Applied Research is designed to answer specific questions aimed at solving practical problems. New knowledge acquired from Applied Research has specific commercial objectives in the form of products, procedures, or services.

The demarcation between these research categories is not of interest to RP focus due to its responsibility to bolster all forms of good research efforts that contribute unearthing the knowledge and putting it to the better use for societal problem solutions.

To that end, RP welcomes a single or a blend of both research settings with ambition to better our understanding of natural phenomena useful for sorting out issues and needs while locally and globally circulating ideas, results and concepts, problems. However, RP being recognized as an applied institution, applied research undertakings are of high priority.

B. Purpose and scope of the policy

The development of this policy is mainly based on the following needs: (i) to define the principles of actions adopted at RP vis-à-vis R&I, (ii) to harmonize and fast-track the promotion of R&I across various RP colleges; (iii) to streamline RP efforts to contribute to the transformation of the country in line with the development plans and aspirations and the need to address prevalent issues existing in R&I established environment.

RP strives to adapt continuously to the rapidly evolving technological and social changes, and increasing economic globalization. This requires having a workforce familiar with research methodologies and innovation strategies and skilled in developing and applying emerging technologies, processes, and knowledge to bring solutions to the workplace, business, and the public sector. It also requires, encouraging faculty, students and staff to conduct research and undertake innovation activities in partnership with community organizations, business enterprises, and industry; which shall strengthen the RP's role as a comprehensive community-based institution and a leader in workforce preparation and industrial innovation.

This policy is an RP commitment that seeks to create a platform for RP to achieve those aspirations with the aim of the strategic goal of promoting international competitive research and innovation. As a guiding document, the scope of this policy extends to all RP community engaged within research and innovation activities; whether the staff under permanent and temporary contracts or registered students. This policy is to be considered as an overarching policy for all related procedures and strategies. Herein stated content is demarcated to the critical guidance needed to instill the R&I culture through a willful engagement and streamline the R&I workflow. The following aspects are covered: (i) Promotion and coordination of R&I, (ii) quality, ethics and compliance, (iii) Funds mobilization and management, (iv) R&I output communication and dissemination, (v) Enhancement of technology transfer, industrial collaboration, and commercialization.

C. Interlinkages with other national and institutional policies

By adhering to global Strategic Development Goals (SDGs), Rwanda has enunciated to position itself as a competitive knowledge-based economy. The momentous intervention of research and innovation is clearly uttered within transformation pillars of national development programs and policies, such as Vision Rwandan 2050, National Strategy for Transformation (NST-1) and Science Technology and Innovation (STI) Policy, among others.

RP's contribution to the outcomes of NST1 is to be aligned with the Rwanda Education Sector Strategic Plan (ESSP) that clarifies the strategies to ensure that Rwandan citizens have sufficient and appropriate competencies to drive the continued social and economic transformation of the country. For NST1 end and other future national mid-term program with the same strategic goals, RP is expected to support initiatives such as home-grown solutions and innovations, accelerated industrialization for economic transformation, and increased decent productive jobs, etc.

This policy implementation shall be complementaly interlinked with other RP policies such as, Academic staff appointment and promotion Policy, Academic Staff workload planning Policy, Academic quality policy, among others.

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SECTION ONE: RESEARCH AND INNOVATION PROMOTION

In addition to establishing training platforms and infrastructure, institutional organization, and academic staff qualifications; the other form of capacity building that enlivens the academic environment; is promoting R&I for problem solving and community outreach. Strategies to boost the readiness of RP human resources involved in R&I are as follows:

1.1. Research and Innovation culture promotion

1.1.1 To come up with persistent global solutions aiming at socio-economic growth, the philosophy behind R&I should involve a continuous tradition that mainly features engagement and competitiveness. To do so, RP shall create platforms, avenues and strategies that inculcate the research and innovation culture among its academic communities.

1.1.2 Rwanda polytechnic intends at streamlining the R&I workflow process that incites researchers and innovators, as key members in institutional success. Among others, this is supposed to involve a line of encouraging strategies such as organizational structure, exhibition events, students induction week, mandatory R&I component in the annual performance contract, academic vertical promotion, competitions and excellence awards on a regular basis at the individual, research group, and cluster levels; etc.

1.2. Research and Innovation awareness that propels Home Grown Solutions

As an institution aiming at conducting research and equipping its enrollees with innovative hands-on skills for a self-reliant creation of decent jobs, RP mandate strictly falls within targeted development goals. RP shall prioritize locally relevant issues in its research and innovation interventions and ensure grassroot stakeholders engagement.

1.2.1 Increasing the awareness of research and innovation initiative with active engagement of local communities. It is up to any College of RP to continuously contrive action plans; whether through public lecturers, seminars, webs, posters; in order to sensitize and stimulate the involvement of its potential researchers and innovators and other stakeholders.

1.2.2 Promotion of home-grown solutions calls for applied research to respond to local challenges. It consists of harnessing the global or local indigenous knowledge endowments to come up with a remedy to locally based problems. Thus, RP shall encourage research that capitalize on indigenous or local knowledge that can result into contextualized development solutions.

1.2.3 To offer its hand in tackling major environmental and socio-economic challenges, RP intends to actively back self-sufficiency programs, typically the Made-in-Rwanda initiative, through ground-braking innovations and keep improving the capacity building, number and effectiveness of applied researchers for a better destiny.

1.3 Capacity building of researchers and innovators

1.3.1 The capacity building enhances the professional competence in terms of pertinent knowledge, skills and/or attitude of human resource. To foster future researchers, sustainability is through an always-on competence acquisition. RP shall put in place mechanisms for continuous capacity building of its researchers and innovators through different schemes.

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1.3.2 R&I-based human resource development is one of RP's core activities. To reach the needed global competitiveness, it is a must to run on-service training for supervisors that guides/mentors' young researchers.

1.3.3 Life-long learning agenda is therefore an incontestable feature for the growth of an academic institution. Beside long-term scholarships, it is crucial to organize short-term training about the research process and procedures, competitive grant proposals, academic writing, and innovation and entrepreneurship skills among potential researchers.

1.3.4 To breed the next generation of researchers, RP is to establish a line of approaches; typically, public lectures, industrial exposure/attachment, bilateral exchange programs, seminars/workshops, peer learning sessions, innovation-embedded curricula, extra-curricular activities such as innovation bootcamps and competitions, etc.

1.3.5 The mobility-based capacity building is to extend the relationship and cooperation/collaboration across borders that encompass academia-academia and academia-industry interactions. This important package is to benefit potential researchers' exposure to advanced state-of-the-art amenities, new programs, good practices and emerging cutting-edge technologies. It will be sustained by RP to steer joint research, study visits, international symposia and conferences, etc.

1.4. Research and Innovation Environment and Coordination

1.4.1 A conducive environment is a basic requisite to any composed research devotion. It involves not only mentorship/supervising personnel and appropriate facilities (infrastructure, equipment, tools, research data repositories); but also, an inherently set routine and a structured course of operations. This bears on a smooth administration approach and concise policies that instill a good governance with persistent best practices. RP shall ensure that a conducive environment is availed for its researchers and innovators.

1.4.2 On the other hand, it is of great consideration to equip the research environment with appropriate R&I facilities that are good enough to support on-campus and further researchers while bringing about sustained and reliable R&I activities. Such facilities are workshops; testing/experiment laboratories; well-shelved libraries, and a variety of software; typically, those for 3D modeling, simulation, data analysis, plagiarism checking, grammar improvement, bibliographic referencing etc.

1.4.3 To predict for in-fieldwork risk and set up countermeasures is an ingredient to a conducive environment. To ensure the safety of researchers and innovators, a code of practice of lab/workshop safety regulations is a must within all RP colleges. A regular review of the existence, relevance, and proper implementation of safety regulations in labs and workshops is to be conducted to preclude any accident emergency; and researchers are encouraged to plan for safety in their research design.

1.4.4 The cross-cutting nature of R&I projects creates challenges linked with the organizational structure. It becomes even worse for an institution of which constituent colleges are remotely spread across the country. To allow such a functional cohesion that benefits from the diversity within potential researchers; the self-organizing and cross-pollinating environment is to be

achieved through instigating a boosted research output of Research Clusters, Research Groups and Research (or innovation) Centers.

1.4.5 The prolificacy of a research environment is strictly linked to the activity's coordination therein. The key to the research success and institution visibility/ranking is an efficient and enabling organizational structure that incorporates a distinct coordination entity dedicated to overseeing research interventions and opportunities. RP shall ensure that efficient and effective coordination structures and frameworks are in place at different institutional levels.

SECTION TWO: QUALITY, ETHICS, AND COMPLIANCE

In various parts of the world, the image, quality, standards, and outcomes of research outputs remain elusive and subjected to various review critics. This prejudice is fueled by the failure to meet the expectations in terms of worldly concerns about existing knowledge gaps and skills-maneuvered products. A polytechnic institution strives to seek quality and excellence in outputs of R&I as well as ensuring ethic-based innovations come up with societal/global solutions. In this regard, RP aims for high-quality research outputs published in high-index peer-reviewed journals or recorded in reputable IP frameworks that are worldwide recognized for quality compliance. Hence, stringent assessment methods of the quality consist in the backbone of injecting publications/innovations competitiveness on international level in Rwanda Polytechnic. Key strategic goals include ensuring an enabling medium, standardization of R&I outputs, diversity and inclusiveness in R&I, safety, proper management of restricted or personal information of subjects and collaborators, proper management of conflicts of interest, eradication of plagiarism; to mention a few.

2.1 Enabling research Medium

2.1.1. Having an excellent research idea with a propensity to implementation success is of paramount importance. However, to materialize the idea, there must be a medium that is well-furnished and timely provisioned as to emerging technology needs. To bring such an initial R&I concept to fruition within this dynamic world of science & technology, there must be an adaptive improvement and/or modernization of the existing facilities (such as labs and workshops), an inter-college mechanism for efficient sharing of research resources (infrastructure and human), online/physical access to libraries and international publishing houses. In case of budget-intensive implications, the usual recourse is the involvement of external stakeholders or governmental collaborators. Based on the importance of the research medium to the compliance with ethical standards and research output quality, RP shall do its best to ensure that an enabling research medium is provided to its researchers.

2.1.2 Within a conducive environment, an enabling medium fully supplied with basic infrastructure is a sine-qua-non to the success of any research/innovation effort. Mostly, a critical hindrance pertains to sharing existing didactic equipment that are initially intended for education. Rwanda Polytechnic will assure a structured access of researchers and innovators to the facilities while observing a qualitative delivery of teaching activities.

2.1.3 On the other side, RP may decide to put aside some of its equipment, such as computers with research-intended software, and dedicate them to research activities. Such arrangements are to be

negotiated at college level depending on the availability of facilities vis-a-vis to the students' number to use the facilities

2.1.4. One of critical features of an enabling research medium is the non-discrimination, i.e. ability to exclusively host all human beings regardless of whatever difference arising from their identity. The reluctant enrolment of females and people with disabilities into STEM academic disciplines has been one of repeatedly articulated issues. Extending to the research sector, Rwanda Polytechnic will keep encouraging the formation of research groups/clusters and publication co-authors to abide by gender and social inclusiveness principles. It is within that framework, the infrastructure responding to the specific need of people with disabilities will be progressively acquired to help them conduct their research and innovations effortlessness.

2.1.5 Research freedom consists of another characteristic of an enabling research medium. It is an institutional openness to let its hosted researchers/innovators get into their own research fields of interest and delve deeper as to their will, while abiding by the ethical code of conduct. Rwanda polytechnic respects the research freedom framework and results dissemination as to the researcher choice. Simultaneous, Rwanda polytechnic urges research outputs publications to carry its name as a recognition to the researcher affiliation institution which raises its visibility.

2.2. Research and Innovation output quality standards

2.2.1 The words "quality and standards" may sound misleading, if not relative. Yet, a standardized work is to be benchmarked in terms of criteria set by renowned or intended bodies of publication/patenting. Furthermore, as a polytechnic higher-learning institution with a mandate to solve technology-based problems, the impact on lifestyle and product commercialization are supplementary features to evaluate the R&I quality. All of these will be respected while evaluating R&I outputs against predetermined RP terms for specific competitions and other professional rewards including publication on RP R&I portal.

2.2.2 That said, it proves monumental to establish a mechanism that assesses the research/innovation extent in terms of overall direction and organization. Typical progress steps may be only conceptual design or written idea, prototype, successfully tested prototype and commercialized prototype.

2.2.3 To ascertain the quality of research outputs before manuscripts being aired, it is very important to assess their uniqueness in terms of content and form. To prevent plagiarism, the institution is willing to have plagiarism checker software. RP shall also encourage its staff to publish in renown journals and shall at its best discourage publication in predatory or non-recognized journals.

2.3 Research Ethics

2.3.1. Apart from striving for research quality standards, ensuring a high ethical standard is another key aspect to achieving R&I sustainability and a progressive institutional growth. For ethics and professional conduct to be an integral part of RP community, every engaged researcher is liable to conform to professional, institutional, national and international standards for research ethics. RP shall put in place structure and mechanism for research ethical compliance.

2.3.2 To avoid RP Researchers facing any sort of ethical dilemma, specific code of conduct about an array of ethical principles are developed within a concise guidelines document. Principles covered involve integrity, honesty, confidentiality and privacy, objectivity, openness, responsible publication/mentoring, conflicts of interest, carefulness, legality, respect for Intellectual Property, respect for colleagues, non-discrimination, social responsibility, competence, animal care and human subjects' protection that mostly require ethical clearance, etc.

SECTION THREE: FUNDS MOBILIZATION AND INTERACTIVE COLLABORATIONS

Research and innovation funding and quality outputs are inseparable aspects that govern the research success . Aggressively seeking for research funds, especially from external funding agencies, is one of key strategies to mobilize resources for R&I engagement of any higher learning institutions. Related efforts are not only the institutional call, but mainly it involves researchers and innovators who are encouraged to willingly contribute their own capacity building and thereby, enjoy predetermined concomitant awards. Therefore, there would be substantial guidelines document for research incentive and a rewarding system that excites researchers. On the other hand, RP is mandated to account yearly for the promotion of R&I sector by allocating a good portion of the annual budget that will help in establishing an adequate research environment but also to provide grants for competitive projects. Within that framework, the following points are momentous for effective mobilization of funds that back the institution growth to: establish and operationalize an internal R&I funding scheme, establish an efficient fund management system, mobilize external funds for R&I, and ensure an attractive incentives scheme for researchers/innovators who are successful in mobilizing external fund.

3.1. Internal and External Research and Innovation funding schemes

3.1.1 To progressively sprout into a self-reliant institution, every higher learning institution contrives a way to reach out to its expectations with appropriate means at its disposal. To meet its research and innovation objectives, Rwanda Polytechnic will continuously impart a suitable quota of its annual budget to supplement efforts spent by interested staff in R&I direction. As a public institution, RP will do all in its power to associate its endeavors with other public entities that share a common research mandate; likewise, an internal grant application may be part of RP channels of funds search and mobilization.

3.1.2 Beside dedicating a permanent budget line for internal R&I funding, Rwanda polytechnic will strive to mobilize external funding. This may be from local, regional or international sources of financial provisions needed to back the course of R&I activities. Herein, the community outreach for home grown solutions is expected to be covered through local partners that can sponsor specific R&I activities needed to help sort out their encountered issues or improvement of their product or service. As an institution with a high societal impact mission, it is important to seek a way to liaise with and directly engage the alumni expertise and finance into R&I activities. Awareness of such academia-industry opportunities calls for active partnerships that will permanently involve closer and consistent interactions. These are expected to raise from other MoU-based academic interactivity, such as joint research propositions, competitive grants, grants by invitation and bilateral/multilateral cooperations, etc.

3.1.3 Researchers must be encouraged to prepare competitive project proposals to attract external funds. It is important for any high-education institution to set a professional recognition scheme to those staff who take their own initiative to go through the project application procedures. Moreover, such project applicants will be accorded the RP support, as to the fund's application document. RP is to invest into its potential young researchers by providing free training in proposal writing, research and publication technicalities, seeking for funding opportunities and international partnerships, etc.

3.1.4 To strategize R&I implementation, Rwanda polytechnic may opt for setting long-term and short-term/annual agenda for R&I that should fall within the ambit of RP mission, national policies (such as NST1, STI policy, etc.), societal vision, and pressing R&I issues at hand. If agreed upon, the set annual agenda may be published promptly to guide the research and innovation content within performance contracts of academic staff.

3.1.5 All along the R&I agenda implementation, it is of great importance to keep encouraging all applicants for external research funding to include an institutional overhead that will help conducting the in-house capacity building of potential researchers and support the conference presentation of successful research.

3.2 Research and Innovation funds management

3.2.1 To reach the highest of expectations while ensuring a continued support from sponsors; setting a managerial structure of funds proves to be an irreplaceable component of any fund-raising scheme. Rwanda Polytechnic has a well-defined organization structure, and will decide on an operative entity to mobilize and perform funds management, whether its SPIU, private company, academic or administrative individuals, etc.

3.2.2 For the R&I funds from external grant providers: The benefits and incentives of the staff, who successfully secured a grant from an external funding agency, should be given to the staff as described in the project proposal and/or the project contract/agreement of the funding agency.

3.3 Communication and dissemination of Research and Innovation outputs

3.3.1 In the respect of the RP mission , the dissemination of research results and innovative ideas is very important and should be done most effectively especially throughout the Rwandan community and beyond. The different ways of dissemination are research and innovation workshops, seminars, and exhibitions, public lectures, R&I portal and publication platforms. The list of peer-reviewed journals recommended should be reviewed and updated annually. The list should refer to the most recognized publishers, existing publication databases, or existing local databases

3.4.2 Supporting young researchers through research clusters is a strong mechanism of researcher's mentorship. The research clusters regularly should be emphasized and equipped to be able to organize seminars or workshops to help junior researchers.

3.5 Technology transfer, collaboration and commercialization

Successful polytechnics are those that have demonstrated excellence in translating their findings into new technologies, services, and products that improve the well-being of the community. The

Rwanda STI policy suggests supporting the technology-transfer and innovation space as a platform to stimulate competition and creativity, particularly among youth. The same national policy also suggests the commercialization of innovative products through the establishment of technology demonstration centers, rapid prototyping centers as well as innovation villages. RP strives to establish new and foster the existing academia-industry collaboration frameworks; and target the emerging technologies in the strategic development agenda of the country, where the local industries are key beneficiaries of the innovative research.

3.5.1 Industry-academia and academia-academia collaborations are the corner stone to improve the research and innovation. This partnership is fundamental to ensure industrial relevance in academic research. This will be guided by a list of signed collaboration agreements with private sector and made public to academic staff for potential researchers to be aware of collaboration channels. An advisory committee consisting of industry and community leaders will be of crucial importance to guide research and innovation activities, reflect current needs and involve partners in decision making as to mutual interactions.

3.5.2 The development of commercialization of research and innovation outputs from RP as a source of income generation activity of funding and tool for positioning the country as a knowledge-based economy is of paramount importance. To exploit this potential, RP will develop commercialization guidelines that promote the generation of income while protecting the main objectives of teaching and learning as higher learning institution. The involvement of the RP private company and SPIU is to be well emphasized to allow easy interactions with intended buyers.

SECTON FOUR: DEVELOPING AND REWARDING RESEARCHERS

Rwanda polytechnic greatly acknowledges the contribution of the R&I staff towards its strongly yearned mission of supplying the society with development solutions and useful knowledge dissemination. That responsibility adds up to delivering employable hands-on skills to RP students, which make them invaluable personnel to offer a well-planned carrier development with motivational incentives. To invest into that monumental workforce of whatever professional success of the institution, a contrived nurturing blueprint that benefits fresh researchers is to be persistently featured with a course of actions aiming at supporting, attracting and retaining researchers and innovators.

4.1 Mechanisms for researchers and innovators rewarding and development

The mechanism to reach out to increased research participation and quality needs while making sure that R&I activities are as effective as possible, three components are worth considering: researchers nurturing and supportive mentorship, motivation-based recognition and acknowledgement and adequate research time provision.

4.1.1 Researchers nurturing and supporting efforts are substantial to the mission realization of any higher-learning institution. This calls for well-elaborated framework that clearly details procedures and processes, the mentorship regarding research proposals development, research publications writing, research funds mobilization, grants applications, opportunities for

networking and clusters project co-authoring. RP shall ensure that support mechanisms to achieve the above are put in place.

4.1.2 All fundamental nurturing and mentorship efforts of R&I shall basically rely on college level. It is therefore the responsibility of college academic leaders, to support and develop researchers so that they get appropriate and effective support in their respective research fields. Such involved leaders are Head of Departments (HoDs), The Principal and his/her deputy in charge of academics and training (DPAT) or other leader mandated to do so.

4.1.3 To breed young researchers and oversee all research activities, a research coordinator will be appointed by each college and approved at RP level. However, to reach to every researcher, every college will set a research coordination team that will be headed by the coordinator. The research coordinator and his/her team will work closely with DPAT in preparing and conducting training sessions, workshops, innovation exhibitions, networking interactions and other opportunities aiming at developing researchers.

4.1.4 The campaign of researchers' development is all-inclusive. The diversity within researchers regardless of whatever distinction, whether research focus, gender or disabilities, will be enforced.

4.1.5 To sustain the continuity and progressive achievements of R&I efforts, Rwanda Polytechnic intends to appreciate tangible achievements as a motivational contribution to let researchers and innovators feel valued. Such recognition and acknowledgment will include, but not limited to, in-kind financial rewards such as conference registration, best performers certificate, the increased visibility through content publication on college/institution R&I portal or coverage within R&I reports, yearly prestigious outstanding VC's R&I award, etc.

4.1.6 Above all, the professional recognition consists of in the academic vertical promotion, as to the promotion policy. This recognition will reward high quality research outputs published in peer-review indexed journals registered within renown publication houses or life-changing innovations that may be proven useful prototypes, startups, patented or under commercialization stage.

4.1.7 Another policy-enshrined incentive is the time allocated to research activities within the academic staff workload policy. That research time will be kept in all the policy review, and it will be repeatedly explained to the academic staff that R&I is part of their daily duties, of which they are supposed to report about the status of advancement and show the results. To that end, R&I activities are to figure within the annual performance contract.

4.1.8 As the research time depends on the academic staff rank, senior researchers will be encouraged to make use of the time opportunity to enrich their research portfolio and young researchers will be trained and mentored to grow their research career. A sabbatical leave to benefit from more advanced international exchange may be accorded to senior researchers as to the relevant policy practices.

4.1.10 On the other hand, researchers will be motivated for the grant applications through the teaching-researching time flexibility regardless of provisions within the workload planning policy, and all final publication outputs are to carry the affiliation of Rwanda Polytechnic. Likewise, the

academic staff who pursue their further studies are required to participate in that institutional visibility.

POLICY OPERATIONALIZATION INSTRUMENTS

To successfully implement this policy; a systematic planning and execution of activities must be well detailed within different guidelines that are supposed to accompany this policy. Procedural guidelines systematically specify the course of actions about how and who will be involved during the policy execution.

A. Key procedural instruments

Most relevant guideline and templates to accompany this policy are as follows:

- Terms of reference for the R & I coordinator at RP and college level
- RP Research and Innovation strategy/agenda
- Research and Innovation Performance Indicators
- Format and guidelines for writing a research proposal
- Research proposal evaluation form
- RP/College internal research funding agreement form
- Format for budget details document for research and innovation project to be funded by RP
- Research progress report form
- Final report template for RP internally funded R & I project

B. Responsibilities for implementation

Different parties shall play their role during the implementation. The most important parties include the RP top management and its colleges, R&I coordinators at college level, and the academic staff.

C. Main responsibilities of the RP top management

- Set a conducive and enabling environment for R&I
- Oversee and coordinate R&I activities
- Appoint R&I committees
- Mobilize funds for internal funding of R&I projects
- Oversee the establishment of R&I schemes mentioned in this policy
- Oversee the establishment of the R&I database and repository
- Liaise with key partners and external stakeholders
- Oversee the organization of R&I competitions and exhibitions at the RP level

D. Main responsibilities of the college top management

- Set a conducive and enabling environment for R&I within colleges
- Appoint the R&I coordinator and the coordination team
- Oversee the establishment of R&I schemes mentioned in this policy at college level
- Liaise with key partners and external stakeholders at college level
- Oversee the organization of R&I competitions, seminars, and exhibitions at college level
- Oversee the capacity building of Academic Staff related to R&I

E. Main responsibilities of researchers and innovators

Researchers and innovators are the backbones for the implementation of this policy. Their responsibilities cannot be detailed in this document. Below are some key roles of the academic staff and students involved in R&I:

- Come up with innovative ideas to solve problems in the community
- Conduct quality research with professional and ethical values
- Prepare quality project proposals for the identified research grant opportunity
- Disseminate R&I outputs
- Actively participate in all programs organized to foster R&I
- Motivate and supervise students in R&I activities

F. R&I coordinator at the college level

- Coordinate all activities related to R&I within the college
- Collaborate with the office in charge of research and Innovation at RP level
- Detailed responsibilities of the coordinator are to be included in a separate guideline

G. Main responsibilities of the external stakeholders

External stakeholders may have one or more of the following responsibilities:

- Provide funds for projects
- Cooperation on the acquisition of industrial skills
- Advise, supervise, provide expertise, train RP staff involved in AR&I activities
- Share infrastructure and resources