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**JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY**

RESEARCH POLICY AND GUIDELINES

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CHAPTER 1:

INTRODUCTION

1.1 Background

Research and development mandate of Jomo Kenyatta University of Agriculture and Technology is spelt out in Subsection 4 (b) of the Jomo Kenyatta University of Agriculture and Technology 1994 Act of parliament which states that “**the University will participate in the discovery, transmission and preservation and enhancement of knowledge and to stimulate the intellectual participation of students in the economic, technological, agricultural professional and cultural development of Kenya**”. The university will derive its research mission from the national development plan for the relevant sectors of the economy while exercising this mandate.

It is, therefore, of utmost importance that JKUAT strengthens its research capacity, both internally and through local, regional and international collaboration, in order to achieve its research mission in a prioritised manner.

Strengthening and improving the university's research program has to continuously address the four key measures of performance - relevance, necessity, internal efficiency and effectiveness.

- ◆ **Relevance of research** is with respect to addressing problems and needs in a prioritised manner, i.e. identification and prioritisation of research needs in line with national development objectives and priorities. There may be a need for strategic basic research in some areas.
- ◆ **Necessary research** builds on past research results and does not overlook opportunities for borrowing outside technologies. On many occasions, research is necessary to bridge knowledge gaps that hinder technological advancement or to advance the utility of an existing technology some steps further. Where the use of live human and animal subjects is anticipated, the research must be absolutely necessary and the methodologies must be morally acceptable.
- ◆ **Internal efficiency** in research refers to the utilization of resources (time, human and materials) in the widest possible sense, without duplication of effort. It ensures that research objectives are realistic for the available resources; objectives are achievable at the lowest possible cost; and resource allocation is based on relative importance of reaching the selected objectives.

- ◆ **Effectiveness of research** is to be evaluated in terms of potential for achieving desired results to satisfy national objectives, dissemination of these results and the potential for adoption and application of the results in solving societal problems.

The JKUAT **Research Policy and Guidelines** (hereinafter referred to as **Research Policy**) provides a framework to ensure that the research program meets these performance requirements. It aims at creating transparency and uniformity in the mechanism for planning, implementing and monitoring the research process at JKUAT, which will contribute significantly to the success of research programs. The JKUAT research policy maps out the processes of identifying and prioritising research needs and initiating research projects; procedures for preparation and approval of research proposals; guidelines for identifying funding sources and modes of acquisition; mechanisms for project monitoring and control; dissemination of research results and evaluation of research effectiveness and impact.

It is the general policy of the University to create and maintain a vibrant research culture among its staff both within and outside the University, with the prime goal of achieving scientific excellence.

1.2 Coordination of Research at JKUAT

The responsibility for coordination of the research function and resource mobilization for research projects is vested in the Research, Production and Extension Division (RPE). This objective is realised through research, publication and Printing Committee of the Senate.

1.3 Research within the Context of JKUAT future aspirations

Research programmes and activities will adhere to JKUAT's vision and mission that are stated below:

1.3.1 Vision of JKUAT

To be a World Class Institution of Excellence for Development

1.3.2 Mission of JKUAT - Present and Future

To produce leaders in Training, Research and Innovation in the fields of Agriculture, Engineering, Applied Sciences, Technology and Enterprise Development to suit the needs of a dynamic world.

CHAPTER 2: OBJECTIVES OF THE RESEARCH POLICY

2.1 Overall Goal

The Goal of the **Research Policy** is to create uniformity and transparency in the mechanism of planning, implementation and monitoring of the research process, and of evaluating and reporting the output of the research enterprise. The JKUAT Research, Production and Extension (RPE) Division is mandated to coordinate all research and collaborative activities in the University. For coordination to be possible there is need for standardization of procedure, clear policies and guidelines, which lead to increased internal efficiency and effectiveness. The policy has to serve both internal and external customers. It is to serve members of JKUAT staff as researchers as well as meet internal administrative requirements. Further, it has to be clear and acceptable to the external partners, either as research collaborators, funding agencies or target communities.

2.2 Specific Objectives

The JKUAT Research Policy provides guidance on all stages of the research continuum.

The following are the major research policy objectives:

2.2.1 To ensure relevance of research

- i) Provide a mechanism of ensuring that the research agenda addresses the national development objectives and priorities.
- ii) Prescribe a general framework guiding preparations and approval procedures for research proposals.
- iii) Provide a mechanism for resolving conflicts of interest between the researcher and the University.
- iv) Ensure that the University assumes responsibility, accountability and control over all research activities undertaken within or on behalf of the university.

2.2.2 To ensure research necessity

- i) Ensure that research aims at advancing and refining knowledge, and bridging knowledge and technological gaps

- ii) Provide a mechanism for eliminating purposeless (not adding value to knowledge, science or economy) research and semantics

2.2.3 To ensure internal efficiency

- i) Provide for a modality of research co-ordination at all levels (institutional and national level), by creating a mechanism for dialogue with the government, in co-operation with other stakeholders.
- ii) Strengthen the organizational framework for planning and administration of research at University level.
- iii) Set clear procedures for control and monitoring of the research process and research performance.

2.2.4 To ensure research effectiveness

- i) Strengthen institutional capacity for strategic, tactical and operational planning, budgeting and control for research activities.
- ii) Enhance marketing skills of researchers so as to make full utilization of the research expertise to address the needs of both the public and private sectors and to competently compete for research resources.
- iii) Set guidelines for research quality assurance, including the quality of manuscripts prepared for publication or public presentation.
- iv) Minimize unfavourable environmental impact of research projects.

2.2.5 To facilitate research capacity development

- i) Enhance the marketability of research proposals for donor funding by ensuring their quality and appropriateness.
- ii) Create a stable research environment by prescribing appropriate HR and financial management practices in support of research.
- iii) Set up mechanisms to ensure that staff attains the desired mix of research output, teaching and consultancy - so as to achieve the level of 'scientific professionalism' demanded by the University Vision.
- iv) Encourage regional and international collaboration and networking to complement and expand JKUAT's research capacity.

- v) Provide and improve management information systems and facilitate and support access to international literature and databases through the Internet.
- vi) Set general guidelines with respect to allocation/sharing of research project resources and related responsibilities, including institutional overheads.
- vii) Foster enthusiasm and encourage willingness among researchers and faculty members to take up the challenge of advancing their careers.
- viii) Provide guidelines for rewarding researchers for their research effort in order to make research an attractive activity comparable to other academic work.

2.2.6 To disseminate and apply research results

- i) Prescribe mechanisms for dissemination of research results to end-users at national, regional and international levels.
- ii) Ensure that plans are in place for extension of emanating technology to end-users and for monitoring the adoption and effective utilization of Research and Development outputs for national development.

2.2.7 To ensure research ethics

- i) Set guidelines on ethics in research.

CHAPTER 3: JKUAT RESEARCH PRIORITY

All the different Institutes, Faculties and Departments shall develop and pursue well-defined research priorities prepared in consultation with staff at departmental level. The following current thematic areas have been developed in line with national development objectives and priorities.

	Theme description	Research areas
1	Health Sciences	<ul style="list-style-type: none"> • Diseases • Vectors • Safe motherhood • HIV/AIDS and STI • Herbal medicine • Food and nutrition • Reproductive health • Gender • Adolescent health
2	Water and Sanitation	<ul style="list-style-type: none"> • Wastewater management • Sewage • Water contaminants and pollutants • Irrigation water • Water usage and conservation
3	Building Planning &	<ul style="list-style-type: none"> • Landscape • Construction • Roads & Housing • Safety • Aesthetic • Juja area
4	Agriculture, food processing & preservation	<ul style="list-style-type: none"> • Crop Protection/Production • Food processing • Food security • Biotechnology • Plant Science • Micro-organisms
5	Technology and industrial development	<ul style="list-style-type: none"> • Mechanization • Industrial Automation

6	Environmental Science	<ul style="list-style-type: none"> • Energy • Waste • Management • Environmental • Management • Urban environment • Biodiversity
7	Biotechnology	<ul style="list-style-type: none"> • Plants • Animal • Medical • Microbiology • Bioprocess engineering
8.	Mathematics	<ul style="list-style-type: none"> • Statistics/modelling
9.	ICT Research	<ul style="list-style-type: none"> • Systems engineering • Software engineering
10	Socio-Economic research	<ul style="list-style-type: none"> • Policy, International trade • Leadership • Governance • Gender • Intellectual Property • Cultural • Political Issues • Entrepreneurship • Technology

3.1.1 An annual Research programme and budget shall be developed to guide the activities each year

3.1.2 The University shall seek to participate in any relevant forums for the implementation of the research agenda.

CHAPTER 4: POLICIES AND IMPLEMENTATION STRATEGIES

4.1 Research Funding

- 4.1.1 In collaboration with other research institutions, the University shall lobby for an increased share of national financial resources allocated for research. Research expenditure of 3% of the GNP shall form the target benchmark in line with the Lagos Plan of Action. In addition, a further 3% of income from all the IGAs will also be allocated for research work.
- 4.1.2 An increasingly greater portion of research funding shall be solicited from sources other than public sources, including multilateral and bilateral, international and local sources both public and private. Solicitation of funding shall be encouraged and facilitated at individual, departmental, faculty, institute and inter-institutional levels by specially rewarding project development efforts and by promoting research collaboration.
- 4.1.3 Projects for university funding shall be selected on the basis of priority, subject to well-defined approval criteria.
- 4.1.4 Although applied research leading to tangible technologies shall be given priority, upstream basic research shall not be overlooked. An appropriate share of research funding shall be reserved to support such activities.
- 4.1.5 The University shall provide seed money to support initial project development and proposal preparation activities; such activities shall include background data collection, planning workshops and project write up.
- 4.1.6 The establishment of professorial research chairs in faculties and institutes shall be encouraged and facilitated as a way of attracting research funding.

4.2 Research, Planning and Administration

4.2.1 *The University Research Committee*

There shall be a **University Research Committee**, a consultative body responsible for the strategic management of research at the university.

- a) Composition of the University Research Committee

The University Research Committee shall be kept small and manageable but must include key officers of the university whose roles are critical to the strategic management of the research function. The following officers should serve in the Committee:

- i. Deputy Vice-Chancellor (Research, Production and Extension)/Chairman
- ii. Deputy Vice-Chancellor (Academic Affairs)
- iii. Deputy Vice-Chancellor (Administration, Planning and Development)
- iv. Deans of Faculties
- v. Directors of Institutes and Schools
- vi. Director, Board of Postgraduate Studies
- vii. Chief Research Officer (Research Office)
- viii. Finance Officer
- ix. University Librarian
- x. Registrar, Research, Production and Extension/Secretary
- xi. Registrar, Academic Affairs
- xii. Registrar, Administration, Planning and Development

b) Terms of Reference for the University Research Committee

- i. To advise and make recommendations to the Senate on the general research policy of the university and to enforce the approved policy
- ii. To establish research priorities for the university
- iii. To coordinate all research and research support activities in the university
- iv. To receive and consider Minutes and Papers from the research committees of Faculty Boards and take action as the Committee deems fit
- v. To make recommendations to the Senate on the allocation of university funds available for research
- vi. To undertake and facilitate fundraising from external sources in support of research at the university
- vii. To allocate research funds to individual applicants out of any funds voted by Council for this purpose
- viii. To monitor the use of research resources

- ix. To receive and evaluate reports from recipients of research grants through Chairmen of Departments and Deans of relevant Faculties on the use of research funds received from all sources
- x. To organise special seminars for presentation of research findings and general educational seminars on research policy and practice
- xi. To advise on matters relating to utilisation of research results

4.2.2 *Mandate of the Research Department*

The Research Department shall:

- I. Establish and maintain linkages with national and international institutions responsible for research policy development and regulation in order to ensure external input to JKUAT research priority setting and to keep abreast with new developments.
- II. Initiate, program, coordinate and follow through the JKUAT research priority setting and programming process and handle all associated secretariat functions in support of the University's Research and Publications Committee.
- III. Prepare, review and standardise research management tools, including formats and schemes for presentation and approval of proposals, reports, agreements and manuscripts, etc.
- IV. Initiate and coordinate programmes for the training of researchers in research project development and management.
- V. Proactively influence university level policies to ensure that research interests are safeguarded, and manage any necessary review of the Research Policy.
- VI. Work closely with other relevant internal offices to achieve the concept of scientific excellence in research and co-ordinate the identification and rewarding of research excellence within the University.
- VII. Establish and maintain internal administrative links with relevant offices at the same University level (horizontal linkages) and with researchers in faculties/institutes and departments (vertical linkages) for purposes of implementing the research function.

- VIII. Monitor donor policies and research funding opportunities on a regular basis and bring useful information to the attention of relevant persons and facilitate any emanating dialogue.
- IX. Maintain a database of funding agencies, their priority research areas, application procedures and funding conditions. The database shall be made accessible to researchers *ad libitum*.
- X. Scout for project ideas and initiatives among research faculty, advise on potential funding agencies, constitute project development teams and coordinate proposal write up, review and approval.
- XI. Monitor the progress and performance of research projects by initiating and coordinating project reviews for purposes of reporting to donors and for identification of opportunities for technology extension to industry and user communities.
- XII. Establish and maintain a research database and keep custody of research output on behalf of the university and publish a regular Research Bulletin to report on the status of research projects.

4.2.3 As a core policy, the University shall establish and strengthen participatory **Research Committees** at University, Faculty, and Departmental levels to coordinate research on behalf of the University Senate. The administrative infrastructure shall aim at facilitating the research process and creating transparency in the whole research activity rather than act as bottlenecks in the process.

4.2.4 Furthermore, the University shall establish, empower and strengthen a **Research Management Office** to take up the responsibility for the overall coordination of research and development at the University level. The Research Management Office shall provide the Secretariat to the University's Research Committee and extend professional management support to the Faculty and Departmental Research Committees.

4.2.5 All staff shall be obliged to do research. They shall be expected to prepare fundable research proposals and maintain a good balance between teaching,

research and consultancy. Job descriptions for academic staff shall clearly stipulate the percent time the various levels of staff should spend on research. Research performance shall remain an important factor in the annual evaluation of academic staff through appropriate rewards for securing research funding and for successfully implementing research projects.

4.3 Approval, Monitoring and Control of Research Projects

- 4.3.1 Academic staff shall be well aware of the national research agenda and participate in the process of defining the research agenda for their areas of expertise.
- 4.3.2 Priority shall be given to projects within the main JKUAT research thematic areas when approving research proposals. All proposals, including those instigated by prospective donors, have to demonstrate that the projects will contribute towards the overall research objectives of the department or institute (See annex 1).
- 4.3.3 All research proposals follow the continuum process as prescribed (See annex III).
- 4.3.4 All projects shall be evaluated through peer review, on the basis of the four key measures of performance - relevance, necessity and in-built internal efficiency and effectiveness. (See Annex VI)
- 4.3.5 The research proposals shall follow the research initiation, approval, execution and conclusion process as described in Annex II
- 4.3.6 Collaboration shall be promoted and facilitated at individual, institutional, national, regional and international levels, with special consideration for networking.
- 4.3.7 There shall be one general framework guiding the process of preparation and approval of research projects. Such a process shall aim to standardise the following issues, among others: (a) Project initiation (See Annex II (b) Concept note preparation; (Annex II) (c) Formats of research proposals; Annex IV (d) Budgeting; Annex V (e) Conformity to financial guidelines; (f) Procurement procedures; (f) Disposal of assets; (g) Formats for research reports; Annex IX

& X (h) Routing, scrutiny and approval; and (i) Registration and contractual agreement. (See annexes, VII and VIII).

- 4.3.8 Employment within research projects shall comply with approved JKUAT personnel policy, which shall provide incentives that are distinctively suitable for faculty staff and short-term researchers (postdoctoral fellows and visiting scientists), respectively.
- 4.3.9 All research proposals shall be subject to the JKUAT approval process before they are accepted for funding or submitted to a prospective donor Irrespective of the source of funding.
- 4.3.10 JKUAT shall enter into a **research contract** with the researcher(s) when the project has been approved irrespective of the source of funding (see annex vii). Where there is an interest of joint ownership of research results/output, the contract shall be between the researcher(s) as one party, the joint financiers as the second party and the University as the third party.
- 4.3.11 Any project whose progress shall be found unsatisfactory on three consecutive evaluations shall be wound up prematurely to avoid further wastage of resources.

4.4 Contribution to Research Administration Costs

- 4.4.1 Each externally funded research project shall contribute at least 15% of the total direct costs of the project to the institutional overheads. The actual amount may vary depending on the regulations of the funding agency.
- 4.4.2 The research overhead contribution shall be applied to the university's utility costs such as electricity, water, telephone and maintenance costs as well as support the university's research management infrastructure, with priority to the host department.
- 4.4.3 Where the policy of an external donor does not allow for overheads, then the estimated costs of utilities and management support shall be included as direct costs to the project.
- 4.4.4 Subject to review by the Research, Publications and printing Committee and to any modifications that might be preferred by the funding agency, the overhead contribution shall be allocated as follows:

- Implementing Department - 3%
- Host Faculty/ School/ Institute - 2%
- Research management support - 2%
- Remuneration for researchers - 5%
- Common services and utilities - 3%

4.5 Sharing/disposal of Research Project Resources

- 4.5.1 All faculties, institutes and departments shall institute transparent and objective criteria for making research opportunities known to members of staff and for allocating such opportunities.
- 4.5.2 For externally funded projects, research resources shall normally be applied strictly to the specific project through which they were acquired and shall be reverted to the University at the end of the project.
- 4.5.3 All equipment purchased within a research project is the property of JKUAT and shall revert to general University ownership for reallocation when the project is concluded.
- 4.5.4 The researcher or department that undertook the completed project shall be given priority in reallocation of the research resources.
- 4.5.5 Procedures governing the disposal of University property (obsolete or otherwise) shall apply.
- 4.5.6 The University shall encourage and coordinate sharing of research information and information sources, such as books, journals, electronic information, (e.g. CD-ROMS) and sources of such electronic information through the INTERNET (e.g. electronic databases).
- 4.5.7 Where physically possible, the University shall encourage and facilitate common services to research, such as word-processing, data management and editorial services, at approved procedures for cost sharing.

4.6 Remuneration of Research Staff

- 4.6.1 Research staff shall receive additional compensation above their standard emoluments as opportunity cost of doing research. The payment shall include:
- i) The appropriate proportion of project funds in respect of institutional overheads as provided for in paragraph 4.4.6 above, **OR/AND**

- ii) Any amounts earmarked for salary supplementation as specified in the project budget and approved by the funding agency, **AND**
- iii) All the monies budgeted for emoluments for staff hired strictly for the given project at the rates approved by the University and the funding agency.

4.6.2 In its endeavour to excel in research and human resource capacity building the University shall incorporate into its personnel policy, a special scheme for recognizing and rewarding outstanding performance in research. This scheme shall be implemented on a regular basis as part of the staff emoluments review programme.

4.6.3 The university shall institute a research performance award scheme consisting largely of the following types of awards:

- (i) *Token Awards* to include public recognition with a plaque, certificate, money payment, holiday allowance, etc., to be given along with or without any of the other awards;
- (ii) *Merit Increment* consisting of extra steps in the salary scale above the usual single step, given only in the year of achievement. Several (i – iv) merits could be awarded in one instance, where one merit shall correspond to one extra step;
- (iii) *Merit Promotion* to be awarded for outstanding performance, the duration of service in the current salary scale/position notwithstanding.
- (iv) *Shares Award* for intellectual property ownership in the form of copyrights, patent rights, utility models and trade marks.

4.7 Creating a Conducive Research Environment

4.7.1 The University shall establish and strengthen administrative and financial management support to research, in order to relieve researchers of such non-research burdens.

4.7.2 Research support services shall include continuous improvement and modernization of management information systems and access to international literature and databases.

- 4.7.3 Researchers and research administrators shall be encouraged and facilitated to improve their capabilities in program formulation and fundraising and in routine project management.
- 4.7.4 The University shall be proactive in working towards a stable research environment by responding positively to staff needs, providing equitable compensation and by providing and maintaining basic research infrastructure and accessories.
- 4.7.5 Research collaboration shall be encouraged.
- 4.7.6 Strategies for disseminating research results shall aim at promoting a scholastic environment within the University.

4.8 *Dissemination of Research Results*

- 4.8.1 The University shall ensure that research results are disseminated widely to the intended beneficiaries.
- 4.8.2 Sponsors of research projects shall be furnished with research reports as per their requirements.
- 4.8.3 The University shall encourage and facilitate projects aimed at enhancing technology assimilation and utilization by industry and end-user communities.
- 4.8.4 The findings of each research project shall be released in intermittent progress reports in a prescribed format and through research seminars. The releases shall facilitate peer review of research performance.
- 4.8.5 On completion of each project, the principal researcher shall prepare standard research report in a prescribed format, which shall be reviewed and disseminated to stakeholders and policy makers to aid decision making.
- 4.8.6 The researchers shall be required to prepare manuscripts for publication in international journals. Each research manuscript shall be reviewed at an internal seminar before it is released for publication. Off prints of the publications shall be issued by the University Library on request.

- 4.8.7 The Research Department shall maintain and continuously update a JKUAT research database and make it electronically accessible through the University web site.
- 4.8.8 The Research Department shall publish an annual JKUAT Research Bulletin containing abstracts of research articles and titles and abstracts of newly funded as well as ongoing research projects.
- 4.8.9 All research proposals shall be required to include a provision for at least one workshop, seminar, training of trainers/beneficiaries or a suitable extension activity for technology dissemination at the end of the project.
- 4.8.10 Proposals shall also be required to include a provision for attendance by the researcher(s) (though not a must) of at least on international scientific forum at which the project results shall be presented.

4.9 Proprietorship of Research Outputs

- 4.9.1 In principle, proprietorship of research results/outputs shall rest with JKUAT. This shall always be the case, without any dispute, when all research funding is from within the University, other public sources, or where donor funding is not tied to any specific research project(s) except where explicitly stated in the research contract/agreement (See annex XII).
- 4.9.2 Where research is financed either partially or wholly from an external source, and there is a desire for shared proprietorship of research results/outputs, then a formula for ownership shall be worked out up front and be part of the approval process (See annex XII).

4.10 Monitoring of Research impact

- 4.10.1 The University shall set up and implement a feedback mechanism to assess research effectiveness in solving societal problems.
- 4.10.2 The draft 5-year Research Agenda shall be reviewed and refocused at a Program Planning Workshop involving all stakeholders.

4.11 Ethical, Environmental and Security Considerations

4.11.1 The following issues will be considered.

- (a) At the proposal approval stage, JKUAT shall ensure that all research projects minimize their unfavourable impact on the environment and on live experimental subjects.
- (b) All issues of ethics in research shall be handled and cleared by the Research Office through an Ethical Review Board.
- (c) The Ethical Review Board shall be appointed by the JKUAT Senate and endorsed by the JKUAT Council. The Board shall consist of subject matter experts and representatives of relevant regulatory bodies, and may co-opt other members or consult other bodies of relevance.

4.11.2 Ethical considerations shall be made when dealing with human subjects, confidential, sensitive, and private information, and live animal subjects.

4.11.3 No research shall be approved whose activities or results might impact negatively on the environment.

4.11.4 All research activities shall comply with the conditions set by the relevant regulatory bodies.

5.0 Concluding Remarks

The new JKUAT research policy is a deliberate effort to guide university research towards greater internal efficiency, effectiveness and external relevance. Implementation of the policy is expected to instil uniformity and transparency in the processes of research planning, implementation, monitoring and control. The policy puts great emphasis on the need to strengthen JKUAT's research capacity by establishing and empowering the research management infrastructure, including the Research Office and participatory mechanisms for research coordination and decision making at departmental and faculty levels. This is in line with the objectives of JKUAT of the next millennium, which places particular emphasis on standardization of procedures and operations through the development and implementation of clear policies and guidelines to govern its inputs, processes and outputs. The JKUAT Research Policy maps out the processes of identification of research needs and prioritisation; research project identification and initiation; preparation and approval procedures for proposals, funding sources and modes; project monitoring and control dissemination of research results and evaluation of research effectiveness.

The JKUAT Research Policy is intended for use by both internal and external customers and to serve many types of users including researchers, administrators, donors and target clientele. For these reasons, the policy must set out guidelines that promote the technical research aspirations of stakeholders, while it also satisfies internal administrative requirements of JKUAT. At the same time, the policy must recognise the special position of donors as enabling partners in research and that of collaborators as functional partners, both of who also have pertinent interests. In developing the policy, it is further recognised that for its effectiveness, the policy must be accepted and owned by the intended users. Attempts have been made, therefore, to make the policy clear, simple and accommodating.

It is hoped that the Research Policy will stimulate research professionalism and a scientific culture at the University and enable JKUAT to meet its broad research objectives in order to address its vision and mission, both in the short and the long run.