ST. JOSEPH UNIVERSITY IN TANZANIA

Research and Development Policy

November 2024

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ABBREVIATIONS

CPD Continuing Professional Development

COSTECH Commission for Science and Technology

DVC-ARPE Deputy Vice Chancellor for Academic, Research and Public Engagement

DVC-RMA Deputy Vice Chancellor for Resource Management

MoU Memorandum of Understanding

QAR Quality Assurance in Research

RCOE Research Centre of Excellence

SJUIT St. Joseph University In Tanzania

URC University Research Committee

R&D Research and Development

FOREWORD

St Joseph University in Tanzania has for many years been undertaking scientific research albeit in a few areas. These research results have not been translated into tangible products, processes and services for development purposes. Also, these research activities have been constrained by a number of challenges which include weak and uncoordinated leadership in the R&D system, the presence of weak multi-disciplinary interaction and collaboration among colleges, departments and units, exclusion of socio-economic research, inadequate mechanisms of including new and emerging research areas into the university research agenda, ineffective mechanism for ensuring that research results and developed technologies are disseminated, inadequate incentive system for researchers, weak and inadequate mechanism for monitoring and evaluation of research activities, inadequate mechanism to ensure that researchers adhere to research ethics and uphold intellectual property rights and low participation of the private sector in research activities. The above challenges have also been exacerbated by inadequate financial and human resource; over dependence on foreign funding, and inadequate appreciation of the role of research in national development. Consequently, research has not contributed to the country's development as it should have been.

Pursuant to the above, a clear research policy is necessary to guide stakeholders on effective and efficient resources utilization; strengthening and improvement of research activity; and to continuously address quality and relevance with respect to the problems and needs of the university and society in general. This policy is geared to strengthen the university's research capability and capacity so as to bring about increased competitiveness. This Research and Development Policy, therefore assumes the responsibility for providing guidance on how research should be conducted; to establish an appropriate coordination and management system of research activities in the university; to set clear and realistic priorities for research; to rationalize the use of the university's resources through scientific and technological research and development activities; to ensure adequate budgetary allocation by the university to research and set a mechanism for increasing the share of the private sector in funding research and development. It is expected that the implementation of this policy will result in a significant enhancement in the University's research activities and, indeed, notable improvements in the quality of her research processes. Since research activities are dynamic processes of self-

appraisal and improvement, the policy statements and implementation modalities specified in this document are subject to periodic reviews and adjustments.

1.0. Introduction

1.1. Background

St. Joseph University in Tanzania (SJUIT) is a fully-fledged University recognized by The Tanzania Commission for Universities (TCU) in its order dated 21st December, 2011. The history dates back to the dynamic, amazing and untiring efforts of our Founder Chairman and Chancellor Rev. Fr. Dr. J. E. Arul Raj who founded the Daughters of Mary Immaculate (DMI) and Collaborators in a remote village in India in the year 1984.Inspired by Christian Biblical virtues and devotion he spearheaded the team to accomplish the task of service to the most downtrodden by taking several charity and development activities, doing yeoman service in villages and remote areas. "Loving God in serving the poor to be Fully Human and Fully Alive" is the Charism of the Society. Today DMI serves more than 500,000 women, 10,000+ students at College level, 8,000+ students at School level and 35,000+ Children, under its care.

The DMI and its Collaborators came to Tanzania as missionaries in the year 2003, on the invitation of the Cardinal Polycarp Pengo, Arch Diocese of Dar es Salaam. The far-sighted vision of the Founder Rev. Fr. Dr. J. E. Arul Raj, the missionary zeal of DMIs, Dr. T. X. A. Ananth, President of the SJUIT University Council, assisted by Dr. Ignatius A. Herman, the Director for Education, by their invaluable service toiled hard to make the African Mission a success. Within a short span of time the small group has turned into a formidable big organization. The DMI and its Collaborators have spread its wings in other East African countries by establishing the DMI- St. Eugene University in Zambia, DMI-St. John the Baptist University in Malawi and are to launch and ignite knowledge and spread its mission in Ethiopia and South Sudan.

The Group currently has two Institutions in Tanzania, namely: - 1. St, Joseph College of Engineering and Technology (SJCET) in Dar es Salaam, and 2. the St, Joseph University College of Health and Allied Sciences (SJCHAS), Boko, Dar es Salaam. Apart from promoting the Higher Education in the Country, the Sisters of DMI serve to uplift the livelihood of rural women through Self Help Groups (SHGs), imparting vocational skills, Entrepreneurial skills, Mother and Child Health (MCH) and many other life skill programmes. DMI along with Missionaries of Mary Immaculate (MMI) give new and productive life to the street children through the service of an organization named "Child in the Sun" (CIS). Today, DMI Group of

institutions has become significant in the field of higher education. The parents, sponsors and students are happy and fully satisfied with our quality of education.

1.1.1 Vision

Saint Joseph University in Tanzania vision is to spearhead employable education in Africa and become part of its history.

1.1.2 Mission

The SJUIT mission is to build the capacity of children of Africa in general and of Tanzania in particular to meet the emerging challenges happening in the World, by imparting quality employable education with discipline which leads to self-enlightenment and development of the nation.

1.2 Objectives of SJUIT

The broad objective of SJUIT is to be the centre of excellence in providing quality education through training in short and long courses and tailor made programmes, diplomas, undergraduate programmes, and sustainable research and consultancy activities.

1.2.1 Specific Objectives

(i)   The provision of courses leading to Degrees, Diplomas and other awards of the Saint Joseph University in Tanzania.

(ii)   The production of University graduates who are sensitive and responsive to community needs and who are able to plan, organize, coordinate and evaluate programmes aimed at meeting those needs.

(iii)   The acceleration of the pace of human resources development in social, economic, academic and research fields.

1.3 Situational Analysis of Research at SJUIT

Although the University comprises of a growing number of staff members with high academic qualifications, only a few staff members dominate the research environment, and there is an increasing number of members of staff who are starting their own private companies, thus carrying out research activities outside the umbrella of the University. The tendency of the members of staff to carry out research activities outside the umbrella of ST

Joseph University in Tanzania deprives the staff members the opportunity to use the research experience to promote the University. In addition, the practice of carrying out research activities without registering them or using expertise outside the university, deprives the growth of the St Joseph University in Tanzania's portfolio and inhibits the optimal utilization of existing resources

There is also neither research planning at the university level nor a forum for integrating, disseminating the knowledge and experiences gained through research, and no efforts have ever been made to translate the acquired research experiences into teaching tools and/or for the improvement of theoretical bases at the university in general. Notwithstanding a few positive contributions associated with research activities at St Joseph University in Tanzania, the existing research activities in the academic departments within the University structure is undefined. As a result, research activities are seen to negatively affect teaching instead of reinforcing it. In addition, the university has not been successful in demanding reports and inventories on research undertakings.

Research management in terms of procedures for approval, quality assurance and control, as well as monitoring of research projects is lacking at the University. As a result, the university has no power to oversee the whole research execution process, controlling the quality of research process and output. Instead, it has been active only during the signing of contracts and disbursement of research proceeds. Furthermore, the University lacks an efficient and effective communication structure to facilitate smooth communication with research units at college, departmental and School/Institute levels.

For quite some time, the University has been advocating the fostering of collaboration in research activities between professional units, departments, colleges, other universities, the Government, development partners, the private sector and other stakeholders at local, national, regional and international levels. Yet, there has not been a framework to facilitate such cooperation, and/or partnership with such various parties. As a result, the University has missed critical opportunities for networking and transfer of knowledge and technology both nationally and internationally.

Research training is required not just for students and academics, but for all professionals and non-professionals alike. For non-professionals who value learning, doing research training equips them with knowledge about the world and skills to survive and improve their lives. For

academics, students and professionals, research is important for the advancement of Society: This is because human needs never end. We have habituated to adapt to new things, as our desires and wants increases day by day. Thus, research is good for the economy. successful businesses thrive due to research and development. Almost every big industry you can think of does research to innovate their companies. Yet, research training for academics and students at St. Joseph University in Tanzania not only is lagging behind but also is unsystematic and uncoordinated.

Currently, research output at the university is very low and inadequate. Among the reasons for low and inadequate research outputs include lack of motivation (rather than due to a lack of knowledge and skill) and environmental barriers. Yet, the university requires that all other performance goals continue to be achieved at or above current levels. Similarly, the university is characterized by inadequate and weak mechanism for disposition of research materials and equipment; Inadequate incentive system for its researchers; Inadequate mechanism for monitoring and evaluation of research activities; Weak and insufficient income generation by research activities; Weak and insufficient income generation by research activities;

Additionally, funding research helps the economy grow because it opens up job opportunities. Moreover, research funding is needed to improve products, services, and technologies. Funding in both basic and applied research can help us strengthen the economy, make our world cleaner, safer, enhance our national security, and help us fight disease. Therefore, funding for basic and applied research must be *a priori* subject in national and university funded science and technology programs. Yet, research funding at national level receives very little attention in the same way St. Joseph University in Tanzania does.

Generally, research activities have not received enough support to enable it to commit itself fully to the facilitation of the execution of research projects at the university level. There is no institutional mechanism for assessing research performance and outputs, neither is there a formal system for the monitoring and evaluation of research activities, nor a means of getting feedback from practitioners. St Joseph University in Tanzania has no institutional mechanism for appropriate vetting of research proposals, protocols and research ethics committee. Working space, facilities and resources at the university are inadequate. Apart from lack of facilities in terms of physical space, manpower and equipment that would have enabled research activities at St. Joseph University in Tanzania to take place, there is no coordinating

unit for research activities at the university level. Also, research activities lack internal and external marketing, quality control, capacity building, as well as soliciting and coordinating of research activities.

2.0. Rationale and Objectives of the Research Policy

2.1 Rationale and Justification

A research policy at St Joseph University is necessary to guide stakeholders on effective and efficient resources utilization; strengthening and improvement of research activity; and to continuously address quality and relevance with respect to the problems and needs of the society. This policy is geared to strengthen the university's research capability and capacity so as to bring about increased national competitiveness. This Research Policy, therefore assumes the responsibility for providing guidance on how research should be conducted in the sectors of engineering and technology, health and education; to establish an appropriate coordination and management system of research activities at the university; to set clear and realistic priorities for research on short, medium and long term basis; to rationalize the use of resources at the university through scientific and technological research and development activities; to ensure adequate budgetary allocation by the university to research.

Also, this research policy will ensure that the academic and sponsored research of the University are appropriate, essential, and operative and is needed for the development of the Nation. The policy will create transparency and uniformity in research planning, implementing and monitoring research processes. It is the policy of the University to create and maintain a vibrant research culture among its staff and students both within and outside the University, with the prime goal of achieving scientific excellence thereby improving the quality of life of Africans especially the Tanzanians.

2.2 General Research Policy Objective

The general objective of the research policy is to provide guidance to academic staff, postgraduate students and other researchers attached with St Joseph University in Tanzania in addressing present and future national research challenges for socio-economic development.

2.2.1 Specific Research Policy Objectives

The following are the specific research policy Objectives

(iv)   To enhance research Skills among faculty members;

(v)   To modernize and upgrade research infrastructure conducive to quality research;.

(vi)   To provide provisions for research in the university and for the collaborators;

(vii)   To intensify research linkages between universities in and out of the country;

(viii) To promote competitive research proposal writing ability;

(ix)   To promote and facilitate the conduct of research involving human participants in a manner consistent with the highest scholarly and ethical standards;

(x)   To articulate incentive systems for promoting research activities with the faculty members and student/scholars;

(xi)   To promote multidisciplinary research;

(xii)   To enhance postgraduate research leading to Masters, Ph.D. & Post Doctorate Training;

(xiii) To ensure that the research results and developments are effectively disseminated to stakeholders;

(xiv)   To provide a forum for researchers to present their findings and innovations and strengthen it through interactive feedback mechanisms;

(xv)   To equip, encourage and motivate researchers and other collaborators to practice research;

3.0 Research Policy Issues and Statements

The Research Policy of 2020 seeks to address the challenges of Research discussed in the introduction. Its purpose is to increase the contribution of research to the development of the country. In the light of the vision and mission presented above, the following twelve focal areas of policy have been identified for articulation:

3.1 Research Leadership and Institutional Framework

Policy Issue: Inadequately harmonized leadership and institutional capacity to manage and guide Research activities

The current research coordination and management lacks unified outlook and fore- sighting mechanism. The university plays a marginal role in relation to research activities conducted in the colleges and departments. The university in its present structure, level of funding and staffing has inadequate capacity to discharge its mandate. As such, there is a need to review the existing institutional framework and put in place a new institutional framework that will enhance research activities, fore sighting, effective coordination, and dissemination of research findings and monitoring and evaluation of research activities at university level.

Objective

> To establish an effective research coordination, guidance and foresight mechanism through a harmonized institutional framework.

Policy Statement

> The University shall establish the University Research Committee (URC) which will harmonize, coordinate, promote, monitor and evaluate research performance as well as foster efficiency and productivity.

3.2 Prioritization of Research Areas

Policy Issue: Ineffective mechanism for setting up priority research areas that have direct benefits to the university and the nation as a whole

The effectiveness and efficiency of research at the university is low due to, among other things, ineffective mechanism to prioritize and guide the research agenda that responds to university needs and priorities. The university, through this policy initiative will establish a

mechanism that will be used to identify and set up priorities, and put in place implementation strategies of the university wide research agenda.

Apart from ensuring efficiency and effectiveness of research, the mechanism will provide for a system of reconnaissance, fore-sighting, planning, implementation, monitoring and evaluation within the university institutional framework. In accomplishing these, the mechanism will adopt participatory approaches that guarantee inclusiveness and ownership across all levels of the university.

Objectives

(i)   To create a mechanism for setting up and periodically reviewing research priority areas and identifying strategic research areas which are important to the university and the nation.

(ii)   To align research planning, implementation, monitoring and evaluation as well as reporting to the university strategic plan.

Policy Statements

(iii)   The University shall establish mechanisms for setting up short, medium, long-term and strategic research priorities in line with the university's strategic plan;

(iv)   The University shall ensure that priority setting is inclusive and based on the societal needs; and

(v)   The University shall support and fund research activities that enhance societal and human well-being as well as those which are of national importance.

3.3 Enhancing Research Capacity in the University and Use of ICT in Research

Policy Issue: Weak and low capacity research in the university as well as in the use of ICT in research undertaking

With the changing global economic landscape and the entry of new technologies in the market, there is a need for the University to create research capacity including the use of ICT in research undertaking. In addition, our colleges, departments and directorates do not have adequate capacities to address weak and low capacity issues. Therefore, there is a need to create an enabling environment to facilitate research training and effective exploitation of ICT. This can be done through capacity building and investment in terms of ICT infrastructure in R&D

Objectives

    (i)   To strengthen research capacity in the university

    (ii)   To increase research capacity in the university as well as in the use of ICT for university development.

    (iii)   To use ICT in research.

Policy Statements

The University, in collaboration with other stakeholders shall:

    (i)   Facilitate the establishment of R&D capacity and research centers of excellence using ICT;

    (ii)   Facilitate and encourage the R&D establishments to expand their research areas into ICT; and

    (iii)   Train its staff in new frontiers of research methodology.

3.4 Dissemination of Research Results

Policy Issue: Ineffective mechanism for ensuring that research results and developed technologies are disseminated

The failure to disseminate research results can be attributed to several factors, including lack or inadequacy of fora for dissemination of results at SJUIT; weak incubation centres and clusters; inadequate participation of SJUIT researchers in national and international conferences; lack of management of Intellectual Property Rights (IPR); lack of sponsorship for national and international workshops and conferences. Therefore, the R&D policy needs to provide guidance and spell out mechanisms as to how industries will be linked to R&D centres of excellence at SJUIT in order to permit the diffusion of new technologies and increase efficiency. Furthermore, it is important that mechanisms to allow and facilitate researchers to market their research results are instituted. Currently, such activities are considered to be outside their mandate.

Objectives

    (i)   To establish effective mechanism/ s that will ensure the identification and translation of innovative research results into products, processes and services;

    (ii)   To establish an efficient management system for dissemination of innovative research results;

(iii)   To ensure that R&D centres of excellence collaborate with local industries (including small and medium enterprises) in up-scaling the local technologies and skills in order to produce quality products and services; and

(iv)   To ensure that University Research Committee (URC) takes a lead in gathering and dissemination of research results.

Policy Statements

The University, in collaboration with other stakeholders shall:

(i)   Facilitate putting in place institutions like incubation centers, clusters and engineering entrepreneurship centers

(ii)   Establish mechanisms for dissemination of research results;

(iii)   Establish mechanisms for the development of IPR;

(iv)   Support and facilitate the dissemination of research results within and outside the country

3.5 Financing of Research and Development

Policy Issue: Low funding of research activities

Over the years the university has not allocated funds to R&D activities. The practice had a number of short comings, including:

(i)   Not fostering research activities at the university;

(ii)   Not being able to make clear monitoring and evaluation of research activities; and

(iii)   Difficulty to quantify the overall budgetary allocation of funds to colleges and departments

(iv)   Difficulty to assess the economic impact of R& D activities

In order to overcome these shortcomings, the university needs to set aside funds for research and development activities. Some mechanism should beestablishedto attract development partners and private sector to contribute to the research fund at the university.

Objectives

(i)   To ensure adequate funds are allocated to research activities;

(ii)   To motivate private sector/industry, development partners and individuals to contribute to research funding.

Policy Statements

The university, in collaboration with other stakeholders shall:

(i)   Create a university research fund (URF);

(ii)   Create conducive environment to attract research funding from the private sector, development partners and individuals.

3.6 Incentives for Researchers

Policy Issue: Inadequate incentive system for researchers at the university

It has been established by various studies the properly selected and administered tangible incentives (cash and awards) can dramatically increase work performance in general including the volume of research outputs. The same studies have established that when tangible incentives are carefully selected, implemented, and monitored, they increase incentivized work performance an average of 22% as well as tangible incentives can significantly increase one's intrinsic interest in incentivized work tasks. Therefore, there is a need to introduce an incentive system for researchers in order to stimulate and increase research outputs among academic staff at SJUIT.

Objectives

(i)   To ensure that academic staff at the university who are engaged in research activities are incentivized in terms of cash and awards

(ii)   To ensure that academic staff are remunerated according to the terms agreed upon by the clients

(iii)   To ensure that academic staff are remunerated according to their ranks

Policy statements

The university shall

(i)   Establish an incentive system for academic staff who are engaged in research activities

(ii)   Ensure that academic staff are remunerated according to the terms agreed upon by clients

(iii)   Ensure that academic staff are remunerated according to their ranks

3.7 Research Monitoring and Evaluation

Policy Issue: Weak and Inadequate mechanism for monitoring and evaluation of research activities at the university

Research monitoring is the regular systematic collection and analysis of information to track the progress of research implementation against pre-set targets and objectives. It aims to answer the question "did we deliver?" Monitoring clarifies research project objectives, links activities and their resources to objectives, translates objectives into performance indicators and sets targets, routinely collects data on these indicators, compares actual results with targets and reports progress to the management and alerts them to problems.

Monitoring gives information on where a research project is at any given time (or over time) relative to respective targets and outcomes. Monitoring focuses in particular on efficiency, and the use of resources. While monitoring provides records of activities and results, and signals problems to be remedied along the way, it is descriptive and may not be able to explain why a particular problem has arisen, or why a particular outcome has occurred or failed to occur.

Evaluation deals with questions of cause and effect. It is assessing or estimating the value, worth or impact of an intervention and is typically done on a periodic basis – perhaps annually or at the end of a phase of a research project. Indeed, evaluation is the objective assessment of an ongoing or recently completed research project, its design, implementation and results. It answers the question "What has happened as a result?"

Objectives

(i)   To ensure that there is effective and efficient monitoring and evaluation system

(ii)   To track research implementation and outputs systematically

(iii)   To determine exactly when a research project is on track and when changes may be needed.

(iv)   To assess the quality of research activities being conducted.

Policy Statements

The university shall:

(i)   Establish a Monitoring and Evaluation Unit within the Research Directorate

(ii)   Monitor and evaluate all research activities conducted by its academic staff and postgraduate students

3.8 Research Activities as a Source for Income Generation

Policy issue: Weak and insufficient income generation by research activities

Private higher education institutions funding comes mainly from the students' fees. Every year, certain amount of budget will be allocated for the purpose of research and teaching, development and also for operation expenses. However, to shore a university is never a simple mission. This shows that the total expenditure of the university can be huge and astonished. Other than that, the maintenances and upgrading of new facilities even cause more expenses to the university. Therefore, the main income generation activities have to originate from the research. The income which is generated by the academic staffs is at upmost important to the development and sustainability of a university. In this regard, research activities are significant to those who are concerning on the issues of income generating activities arising among academic staffs.

Objectives

(i)   To ensure that research grants generate income to the development and sustainability of the university

(ii)   To ensure that research grantees pay some fees as compensation for the time-off.

Policy Statements

The university shall:

(i)   Ensure that research activities funded from outside the University generate income for the purpose of research, teaching, development and also for operation expenses of SJUIT

(ii)   Ensure that research grantees pay some fees as compensation for the time off

3.9 Overhead Cost for Research

Policy Issue: Lack of charging overhead costs

Overheads, or indirect costs, include the costs associated with providing central services that cannot be assigned to the research activities. As a result, researchers at the University benefit from receiving access to world-class facilities and equipment such as laboratories, major items of equipment and internet services. Overhead allocation is important because overhead directly impacts university's balance sheet and income statement. You have those expenses no matter what, and your accounting system requires you to keep track of them. Many accounting systems require you to allocate the costs to the goods and services you produce. By understanding how to assign those costs in a responsible and reasonable manner, you ensure your records are accurate and not distorted. Beyond accounting requirements, allocating overhead helps you make decisions for the university, especially pricing. If you base your product pricing only on the direct costs, you cut into your profits. You still need to pay for all of those normal overhead costs. That means you have less left over from each product sale. By incorporating indirect costs into pricing, you can increase the pricing to cover them effectively without slashing your profits. Allocating overhead can also help you look for ways to cut your costs. It can be a motivator for different departments to improve the efficiency of their products to reduce overhead costs.

Objective

    (i) To ensure that research activities funded from outside the university include overhead expenses

Policy Statements

The university shall:

    (i) Establish Overhead Allocation Rate Formula for charging all research activities which are funded from outside the university sources

3.10 Disposition of Research Materials and Equipment

Policy Issue: Inadequate and weak mechanism for disposition of research materials and equipment

Equitable distribution of research materials and equipment is required because this is one of means for capacity building of the university, colleges and departments. Moreover, by distributing research materials and equipment equitably the university will ensure a continuous flow of sufficient resources to every section of the university as well as resources will not be exploited at the hands of a few persons. Finally, equitable disposition of research materials and equipment helps to achieve the motive of sustainable development of the university.

Objectives

    (i)   To ensure that research materials and equipment used during the research activities are disposed in accordance with University regulations and/or institutional collaboration agreement

    (ii)   To ensure that research materials and equipment generated through research belong to the university

    (iii)   To ensure that research materials and equipment used during the research are distributed equitably among participating departments/institutions

Policy Statements

The university shall:

    (i)   Establish procedures for proper disposition of research materials and equipment generated through research

    (ii)   Ensure that research materials and equipment used during the research are distributed equitably among participating departments/institutions

3.11 Research Ethics and Intellectual Property Rights

Policy Issue: Inadequate mechanism to ensure that researchers adhere to research ethics and uphold intellectual property rights

Research activities are carried out in accordance with acceptable ethical requirements. Ethics in research take into account such matters as protection of research subjects and safeguarding the environment; acknowledging sources; copyrights and patents; integrity in connection with

fabrication of data, cheating and non-transparency; disclosure of confidential information; plagiarism and falsification. Currently, there is variation in the extent to which research ethics management is institutionalized in the university. Furthermore, management of ethics is uncoordinated, fragmented, and accompanied by a weak ethical review system. The College of Health and Allied Sciences maintain a research ethics management system for the student's health research project in framework of curriculum but does not have adequate mechanisms for Scientific Human Health Research projects.

All Scientific Research projects in the field of Human Health in Tanzania are monitored by several government agencies under the Government Ministry responsible for Health and their implementation requires the creation of additional committees at the university, accreditation and registration those committees in the several government agencies (see *Annexure I*). Other colleges don't or have internal guidelines that are not necessarily comprehensive. Therefore, there is a need to strengthen and formalize research review mechanisms. The university needs to create a common structure. First of all, the University Research and Graduate Studies Committee, chaired by the Director of Research and Graduate Studies. Next College Research and Postgraduate Committee in every college.

To conduct Health and Allied Sciences college Scientific Human Health Research projects, the Health and Allied Science college committee must be accredited in the Medical Research Coordinating Committee (MRCC) and it must have an additional Human Health Research Ethics Committee under it with accreditation by the the National Health Research Ethics Sub-Committee (NatHREC) and the Tanzania Medicines and Medical Devices Authority (www.tmda.or.tz) when medical drugs, vaccines and medical devices is planned involving human subjects.

Objectives

> (i)   To strengthen research ethics management;
> (ii)   To foster intellectual property rights

Policy Statements

The university shall:

> (i)   Establish research ethics review mechanisms in all units, departments and colleges;

(ii) Strengthen capacity to monitor compliance with national intellectual property rights and legislations governing copyrights in Tanzania;

3.12 Collaboration, Partnership and Networking

Policy Issue: Inadequate collaboration among researchers from different disciplines/institutions and the private sector so as to optimize the use of resources and increase efficiency

Researchers in the university have limited interaction and collaboration between each other. This trend has led to inefficient use of research equipment and human resource as well as poor sharing of knowledge and experiences. In order to optimize the use of these resources, it is important that an administrative framework is put in place to foster collaboration as well as sharing of some critical resources among research units. This will reduce inefficiency in R&D activities, such as purchasing the same type of expensive scientific equipment for different research activities. In addition, where research activities require a multi-disciplinary team and involvement of the private sector, there should be a mechanism to easily assemble such a team

Objectives

(i) To establish and institutionalize an efficient system of partnership, networking and collaboration among researchers and private sector;

(ii) To create a favorable environment for cooperation and partnership for R&D activities

Policy Statements

The university shall:

(i) Establish an administrative framework to promote partnership, networking and collaboration across disciplines within the university, the private sector and other research institutions;

(ii) Promote R&D activities which are carried out by conglomerates of R&D institutions.

4.0 Institutional Framework, Roles and Responsibilities

4.1 Institutional framework for Policy Implementation

In order to stimulate fast results, accumulate critical masses of researchers and share resources researches shall be conducted in clusters, at least one for each Program with a common broad research theme. This will put researchers with nearly the same field together working as teams. These clusters will finally become the core unit and will become the Research Centres of Excellence (RCOE). The RCOE must be administered by a senior member of the academic staff, who shall have the responsibility to monitor the progress of research and manage other activities within the cluster.

There shall be a Research Office managed by the Director of Research and Postgraduate Studies who will be assisted by one support staff. This office shall deal with the daily administration of the research activities at the university level. It will be responsible for coordinating research activities of the RCOEs, processing applications for funding, research permits, liaising with partners or sponsors, managing meetings of the research committee, and managing postgraduate and professional development courses. However, matters related to funding, approval of research themes, examination of the thesis shall be discussed and prioritized by the University Research Committee.

4.2 The University Research Committee (URC)

There shall be a University Research Committee Chaired by the Director of Research and Postgraduate Studies. The URC shall report to SENATE, on all matters related to research progress, new research initiative, funding, academic awards and collaborative activities.

The research Committee shall be composed of the following members:

(i)   Director of Research and Postgraduate Studies as Chairperson

(ii)   One representative from each RCOE /Academic Department

(iii)   Principals of the respective institution

(iv)   One external representative from Industry

(v)   One external representative from another national University

The functions of the University Research Committee shall be

(i) To assist the Academic Department to create the RCOEs with focused research themes.

(ii) To promote and support collaboration between the RCOEs and other such Centre's or institutions engaged in similar research themes.

(iii) To promote and support collaboration between RCOEs and industries within and outside Tanzania with the goal of seeking financial support.

4.3 The Mandate of the Directorate of Research and Postgraduate Studies

The Directorate of Research shall:

(i) Plan and develop research programmes and agenda.

(ii) Provide leadership for collaborative research including capacity building, mentorship, assessing needs and identifying areas of priority.

(iii) Coordinate all research activities, publications, productions, and innovations.

(iv) Promote the dissemination of research findings.

(v) Initiate and maintain local and international collaboration for research programmes.

(vi) Promote academic linkages, interchange, contact, and co-operation with the public and private sectors.

(vii) Identify and advice senate on resource requirement for research and development

(viii) Produce annual reports on research and extension and academic linkages.

(ix) Gather and disseminate information on research and funding opportunities to academic staff.

(x) Promote and encourage competitive research project proposal writing.

(xi) Develop a strong multidisciplinary research culture and encourage synergy.

(xii) Coordinate preparation of research project proposals individually or in teams.

(xiii) Coordinate provision of skills in grant proposal writing to academic staff.

(xiv) Publish a regular Research Bulletin indicating the status of research activities in the University.

(xv) Work out modalities of implementing funded research projects.

(xvi) Facilitate the issuing of research permits to local, national and international researchers

4.4 Research Centre's of Excellence (RCOE)

There shall be at least one Research Centre of Excellence in each Department, led by a Head of the Centre/ a senior full-time faculty from amongst the members of the cluster. The composition of the RCOE shall be:

➢ The Head of the Centre.

➢ Academic staff from the Department hosting the Centre.

➢ In co-operated Members (Sponsors)

➢ The Director of Research or his appointee.

The functions of the RCOE are:

(i)   To propose research themes and research proposals within the research themes.

(ii)   To create the mass of researchers and allocate research topics within the research themes to the researchers.

(iii)   To conduct the research activities, monitor the progress and disseminate the results in recognized journals and/or peer-reviewed conference proceedings.

(iv)   To prepare a budget for the RCOE or the research unit within the Department.

(v)   To ensure that the research tools, including literature, equipment and software are identified and made accessible.

4.5 Roles and Responsibilities of Stakeholders

The implementation of the Research and Development Policy is vested in the hands of various stakeholders. It is important to note that the common and shared vision, mission and objectives as clearly defined in the policy will be realized only if the various actors play their roles effectively. The responsibility of various stakeholders who will practice and implement the Institutional framework includes the URC, the head of the institute, department, faculty member and Postgraduate students. The various roles and responsibilities of various stakeholders are delineated in this section.

4.5.1 University Research Committee

The URC will periodically assess the performance of each institute of the university by getting reports from the Head of the Institute. The URC shall forward their recommendations to DVC-ARPE to cancel the contract of the individual faculty member in case of poor performance.

4.5.3 Head of the Institute (The College Principal)

The head of the Institute shall ensure through periodical progress report from each HOD, the performance of individual faculty/RCOE in regards to submission of Research Proposals and publications. Also, the head of the Institute shall forward a Collective Report of all RCOE of the institute to the Directorate of Research, for the assessment of the performance by the URC.

4.5.3 Head of the Department

It is the responsibility of the HOD

(i) To ensure sufficient number of Research centres of excellence are established in their department.

(ii) To ensure research proposals are submitted periodically through pre-assessment and vetting process.

(iii) To motivate the young researchers/new faculty members to be continuously be involved in research and produce outputs.

(iv) To organize weekly staff /RCOE seminars to disseminate the findings and progress of each research programme.

(v) To submit periodical report to the Head of the Institute as demanded, the performance of each RCOE/Individual faculty member as regards to their research performance.

(vi) To ensure that each postgraduate student has been assigned a supervisor for the independent studies

4.5.4 Academic Members of Staff

The academic members of staff can apply for grants individually or can be part of research Centre of excellence. For satisfactory renewal of contract, the individual acdemic member of staff should produce outputs in terms of getting funds and publication in peer reviewed journals.

4.5.5 Postgraduate Students

It is well known that Postgraduate students are extremely important in research activities. This is because they are engaged in the research and they are aiming and determined to get a qualification from the proceedings. There are two approaches to offering postgraduate programmes; by full-time research and by coursework and research. It is recommended that course-work and research be the norm as the target group, who are working professionals, may not be able to get full-time leave for two years to engage themselves with full-time research.

> (i)   A candidate should register to postgraduate studies at the SJUIT research Centre on getting provisional registration letter.
>
> (ii)   Postgraduate students will be required to choose their research topics from themes prioritized by RCOE
>
> (iii)   Postgraduate students doing Ph.D. /Masters by research should present their research progress before the review committee constituted by the concerned department once in six months.
>
> (iv)   URC shall provide approval for faculty members with Ph.D. to get supervisor ship recommended by the URC.
>
> (v)   A maximum of 6 Masters at a time are permitted to do research under a supervisor.
>
> (vi)   A maximum of 6 Ph.D. Scholars at a time are permitted to do research under a Supervisor/ Co-Supervisor.
>
> (vii)   Research scholars are encouraged to publish their research works in reputed indexed journals (refer Appendix 4) after getting approval from their supervisors.
>
> (viii)   Research Supervisors are advised to submit the research articles to the journal only after checking the Plagiarism from the Research Cell.

5.0 Implementation of the Research Policy

The implementation of this policy requires developing a plan that will identify strategies for addressing each policy statement, activities to be performed, the time frame and the responsible stakeholders. It should be noted that the coordination for the implementation of the policy remains with the Directorate of Research and postgraduate studies.

5.1 Procedures for Approval, Control, and Monitoring of Research Projects

Apart from being conversant with the SJUIT Research Agenda, researchers are expected to be aware of both national and international research agenda and participate in the process of defining the SJUIT Research Agenda for their areas of excellency/expertise. The research themes and research topics must match the current focus of activities in the various fields in the Nation. Researchers must also time their outputs to be available at the correct time to meet certain deadlines. To facilitate these goals: the internal processes, and procedures shall be as follows:

(i) The research theme proposal shall follow a standard format according to the template shown in Appendix 1.

(ii) The Head of the RCOE shall lead his members in developing the research theme.

(iii) When approving research proposals, priority shall be given to projects that match the research thematic areas of RCOEs and contribute to the overall research objective of SJUIT.

(iv) The research proposals shall follow a standard format according to the template shown in Appendix 2.

(v) Project proposals shall be evaluated through a peer-review process, based on the established key measures (for example relevance, the justification for the research, feasibility of the work, availability of internal expertise, availability of resources, etc.).

(vi) Academic staff members are encouraged to network with researchers of other Universities/industries in order to promote and facilitate collaboration both at individual and institutional levels.

(vii) Any employment within research projects should comply with approved SJUIT personnel policy (to be developed, if not) and must be approved by the Human Resources Department.

(viii) SJUIT shall enter into a research contract with the researcher(s) when the project has been approved irrespective of the source of funding.

(ix)   Irrespective of the source of funding, research proposals must be subject to the SJUIT approval process before they are accepted for funding or submitted to a prospective sponsor.

(x)   Should there be an interest in joint ownership of research results, the contract shall be negotiated between the researcher(s), the sponsor(s), and the University.

(xi)   A research project whose progress is found to be lacking on two consecutive evaluations shall be terminated prematurely.

5.2 Research Quality Assurance (QAR)

Quality Assurance in Research (QAR) comprises all the techniques, systems and resources that are deployed to give assurance about the care and control with which research has been conducted. QAR is typically concerned with:

(i)   The responsibilities of those involved in the research

(ii)   Transparent project planning

(iii)   The training and competence of research staff

(iv)   Facilities and equipment

(v)   Documentation of procedures and methods

(vi)   Research records

(vii)   The handling of samples and materials

5.3 The Research Centres of Excellence (RCOE)

RCOEs shall submit an annual report on the units' output to the Research Office.

(i)   This report shall reflect the productivity of individual staff in the unit.

(ii)   The Research Committee shall comment on the annual report and the performance of RCOEs based on agreed criteria and will advise the DVC Academic on the outcome.

(iii)   The Research Office shall publish a list of staff and students' publications annually.

(iv)   The Research Office shall develop and disseminate research quality guidelines. The Research Office shall conduct peer review of research performed at the SJUIT at an interval of five years.

5.4 Research Budget

The budgets shall be prepared by each RCOE to cover the cost of essential equipment, computers, software, literature acquisition, and cost of dissemination of results. Such budgets shall be aggregated and submitted to the Research Office. The Research Office shall put together budgets from all the RCOEs to form the Research cell Budget which shall be submitted to the University requesting for internal funds.

    (i)   The RCOE must make an effort to source external funding; from industrial partners and other organizations like COSTECH etc.

    (ii)   URC shall be responsible for research funds management.

5.5 Collaborative Research

The RCOEs are encouraged to collaborate with other institutions or with industries within and outside the country. Where such a collaboration is imminent, the Director of the Research Committee must be informed and he must present the request to DVC-ARPE for approval. A MOU must be signed between the collaborating partners. The obligations of each institution and those of the researchers must be clear. The ownership of patents and copyrights must be agreed upon in the MoU.

5.6 Research Training

SJUIT through the research office shall:

    (i)   Organize training courses on Research Methodology and Proposal Writing for its academic staff and postgraduate students. All academic staff and postgraduate students with no grounding in Research Methodology or Proposal Writing shall be urged to attend.

    (ii)   Initiate research training at the postgraduate level by ensuring that there is sufficient research training component in the postgraduate curriculum.

    (iii)   Require the research staff and postgraduate students to demonstrate that they have sufficient research training during the approval of research proposals.

    (iv)   Organize seminars regularly on topics of general interest.

(v)   The Director of postgraduate, research and consultancy must ensure that research training to Staff members and Students (PG and Doctorate) is a grand success.

5.7 Dissemination/Publication of Research Results

SJUIT shall (subject to compliance with Intellectual property):

(i)   Encourage its researchers to disseminate their research findings through local and international outlets (journals and conference proceedings).

(ii)   Encourage its staff and postgraduate students to disseminate their research findings through national/international exhibitions.

(iii)   Require RCOEs to organize yearly or bi-annual seminars, workshops, or conferences/symposiums and to start Journal outlets.

(iv)   Demand the incorporation of the description of how research results should be disseminated during research project proposal writing.

(v)   Require that research reports be peer-review before being deposited.

(vi)   RCOEs to publish titles and abstracts of publications on the SJUIT website and other electronic databases.

5.8. Overhead Costs and Incentive to Researchers

The research overhead contribution shall be applied to the university's utility costs such as electricity, water, telephone, internet and maintenance costs as well as support the university's research management infrastructure, with priority to the host department.

(i)   Each externally funded research project shall contribute at least 5% 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.

(ii)   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.

(iii)   Subject to review by the Research Committee and to any modifications that might be preferred by the funding agency, the overhead contribution shall be allocated as follows:

a) Incentive for researchers as per terms of contract

b) Common services and utilities for the Research Office - 1%

c) Implementing College - 1%

d) Implementing Department-1%

e) Research management support for the researcher- 2%

(The above said contributions are subjected to the provisions allotted by the funding agencies)

5.9 Ownership and Sharing of Research Project Resources

All materials and equipment purchased within a research project will be the property of SJUIT unless stated otherwise. The guideline, policies and procedures governing the disposal of University property shall apply.

(i) The RCOE that acquired the resources shall be given priority during the reallocation of the resources when the project ends.

(ii) The RCOEs shall have a transparent and objective criterion of making research project resources known to members of staff and for allocating such resources.

(iii) The Research Office, with the support of the RCEOs shall facilitate the sharing of information and research data sources. Such sources shall include books, journals, and electronic information systems.

5.10 Ownership of Research Outputs

Ownership of research outputs shall rest with the University and Researcher(s) if all research funding is from within the University. If a research project is funded partially or fully by an external sponsor, and if there is a need for shared ownership of research results/outputs, then a formula for ownership must be worked out and agreed in advance.

Such a formula must be clarified during the approval process.

6.0 Monitoring And Evaluation

A Monitoring and Evaluation (M& E) system for SJUIT Research Policy shall be pegged within the framework of the SJUIT Rolling Strategic Plan, which is designed to ensure effective and efficient implementation of the plan and the sustainability of the mentioned

impacts. Thus, the M&E system for SJUIT Research Policy is instituted as a review mechanism to monitor the progress and assess outcomes to ensure continuous and improved performance in line with the original objectives and expectations of the units and individual projects.

6.1 Monitoring

In line with the SJUIT Research Policy, monitoring shall be a process that will require a continuous and systematic collection of data related to the sets of indicators (anticipated results or outputs), for the corresponding sets of imperative actions as specified in the policy issues/thrusts delineated in the Research Policy Framework. Monitoring shall also involve an internal investigative process initiated by the SJUIT management aimed at appraising routine performance. The investigative process shall also ascertain information at two levels:

(i) Information related to the performance of the departments as operational units. This largely pertains to the implementation of planned actions and activities and the achievement of results within the framework of day-to-day research activities;

(ii) Information related to response and reaction by targets and stakeholders regarding activities in the research project's terms of reference and with reference to the general context in which Research Policy as an institution operates. This type of information usually originates from the environment outside the university, and it is the kind needed to move attention from monitoring (internal focus) to evaluation (external focus). It also entails the search for certainty about the results and impact of the SJUIT Rolling Strategic Plan on its stakeholders, clients and other elements of the external environment.

Additionally, there should be an accompanying narrative report, designed and integrated with the tabular one in order to present a concise, informative and credible implementation status of the strategic plan every six months. In this regard, there shall be two workshops held every six months to discuss progress in implementing the SJUIT Rolling Strategic Plan. These will be held before SJUIT level workshops on progress in Strategic Planning.

6.2 Evaluation

Evaluation shall entail a periodic, all-inclusive assessment of the external efficiency and effectiveness of the SJUIT Research Policy through, among other things, the use of monitoring

data. The specific aspects for evaluation will be based on the Strategic Objectives as spelt out in the policy. Evaluation in this context will require the use of tools such as physical observation and interviews conducted by internal and external evaluators. The target of the evaluation process will ordinarily go beyond questions about the implementation of the Strategic Policy and bring in the very basis of the planning approach and procedures, including policies that prompted the whole process of planning in the first place. In summary, evaluation will focus on the impact of the research activities, which will require physical observation and interviews by internal and external evaluators. As such, evaluation shall focus on and aim at the following:

(i)   Justifying the use of resources

(ii)   Assessing the reasons for success or failure of specific aspects od the research plan

(iii)   Assessing whether the research activities are achieving SJUIT objectives

(iv)   Assessing whether adequate resources are being mobilized to implement the research activities; and

(v)   Assessing whether available resources are being utilized efficiently to achieve the objectives of SJUIT.

Two types of evaluations will be conducted: One to be conducted annually using an evaluation team internal to SJUIT; and another at the end of every three years using external evaluators who will be appointed by the SJUIT Council. Therefore, this Research Policy will be reviewed and revised after three years.

7.0 Conclusion

The Research Policy at SJUIT is a thoughtful effort to promote research activities with greater efficiency thereby providing administrative follow-up for research endeavors. This policy is envisioned to provide the structure for establishing and operating research centres, to pursue research of international repute in a strong and supportive research ambience. Further, the policy puts great emphasis on the need to strengthen the University's research capacity by establishing and empowering the research management infrastructure, including the Directorate of Research and participatory mechanisms for research coordination and decision making at RCOE levels.

In addition, the Research Policy charts out the identification of thrust area in each discipline; concepts of research project proposal writing; evaluation of research proposals and dissemination of research results. The Policy is intended for use by all SJUIT campuses and external customers partnered with SJUIT. Attempts have been made to make the policy lucid, simple and cooperative. It is believed that the Research policy will arouse research professionalism and a scientific culture at the University and enable the University to meet its broad research objectives.

Annexure I

In implementing the above Policy Statements on Human Health Research Ethics, STJUIT Research will adhere to the following requirements:

- **Medical Research Coordinating Committee in Tanzania**

Health research coordination in Tanzania is under the **Medical Research Coordinating Committee (MRCC). MRCC is the national health research coordinating body** that ensures all health research follows the national health ethics requirements. The Committee functions include coordination of health research conducted in Tanzania. The MRCC has delegated functions of registering, ethical review, approving and monitoring of research to be carried in Tanzania to the National Health Research Ethics Review Sub-Committee (NatHREC).

- **National Health Research Ethics Committee**

The day-to-day activities of the MRCC are carried out by the **National Health Research Ethics Sub-Committee (NatHREC) established in 2002. NatHREC is** responsible for ensuring health research proposals are reviewed to safeguard the dignity, rights, safety and well-being of research participants. Institutions carrying out or hosting health research are encouraged to have institutional review committees to safeguard their image by ascertaining the quality of the research output. The Sub-committee is also responsible for overseeing all issues pertaining to health research data and material transfers. Over the years, the Sub Committee has supported a number of research institutions in Tanzania to establish their own Institutional Ethics Review Committees (IREC) or Institutional Review Boards (IRBs).

The Committee consists of up to 15 members who collectively have the relevant qualification and experience to review and evaluate the science, medical aspects, and ethics of health research proposals. It is composed of both scientists and non-scientists with varying backgrounds to promote a complete and adequate review of health research proposals commonly received by NIMR. The NatHREC includes the following category members:

- Clinical scientists;

- Biomedical scientists;

- Social scientists;

- Legal representative

- Unaffiliated community representatives;

- Representatives of religious/Faith-Based Organizations

The Committee members are appointed by their respective institutions. Members are appointed based on knowledge, qualification and interest on matters of health research and research ethics. The NatHREC chairperson is non-affiliated to the National Institute for Medical Research whereas the Secretary is affiliated.

The Sub-Committee has guidelines, regulations and standard operating procedures for ethics review, as well as evaluating, monitoring and controlling new, ongoing and approved health research. These documents include:

1. Brochure for Investigators

2. Standard Operating Procedures for the National Ethics Committee for use by Other Institutional Research Ethics Committees

3. Guidelines for Insuring Health Research Participants in Clinical Trials

4. Application Form

5. Principal Investigators and Reviewers Guide

6. Oversight Monitoring Tools for Researchers and Participants

7. Material Transfer Agreement

8. Data Transfer Agreement

Approval to conduct health research in Tanzania

The whole process of receiving, reviewing and approving the protocols takes a maximum of 6 weeks. NatHREC carries research monitoring by on-site visits in collaboration with district and regional medical authorities. In this regard, copies of certificates of cleared research proposals are sent to respective District and Regional Medical Officers where research is to be carried out. Research certificate approval is renewed annually and PIs are required to submit progress reports biannually. To publish the findings, the principal investigator will have to seek permission from the National Institute ыfor Medical Research. Copies of the final publications

must be made available to NIMR and the Ministry of Health, Community Development, Gender, Elderly and Children.

All proposed health research in Tanzania must get an Institutional Ethical approval at the host institution where the research will be based. In case there is no any Institutional Ethics Committee, the approval will be sought from the NatHREC. For all health research involving external collaborators (non-Tanzanians), the researchers must apply for the *Institutional Ethical Clearance* as well as the *National Ethics Clearance*. Non-Tanzanian researchers are required by law to get *Research Clearance* and *Research Permit* from the Tanzania Commission for Science and Technology (COSTECH) (www.costech.or.tz).

Protocols for Clinical trials to be conducted in Tanzania are reviewed by another specialized sub-committee, *Clinical Trials Sub-Committee.* This sub-committee has nine members, and meets monthly and reports to the NatHREC. Clinical trials are required to also obtain a *Clinical Trials Certificate* from Tanzania Medicines and Medical Devices Authority (www.tmda.or.tz) before the commencement of the study.

Guiding Documents and Templates:

- The Standard Operating Procedures

- The MRCC Guidelines

- Guidelines of Ethics for Health Research in Tanzania

- Data transfer agreement for Researchers/organizations

- Material transfer agreement for Researchers/organizations

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Research Clearance for Expatriate Academic Staff working in Universities in Tanzania

For all Academic Staff wishing to conduct Research including Health Research in Tanzania will have to obtain Research Clearance Certificates including payments for Application fees and Clearance Fees. At the moment the Application fee is US$ 50 and Research Clearance Fee per Project is US $300.