

MBEYA UNIVERSITY OF SCIENCE AND TECHNOLOGY



INNOVATION AND TECHNOLOGY TRANSFER POLICY

MARCH 2024

FOREWORD

Mbeya University of Science and Technology (MUST) is anticipated to play a vital role in enhancing Tanzania's social and economic development through its core functions i.e., education, research and consultancy services. Aligned with the vision of becoming a leading center of excellence for knowledge, skills and applied education in science and technology, the University aims to contribute to Tanzania's attainment of Vision 2025 aspiring for a competitive semi-industrial economy and a middle-income class.

The Centre for Innovation and Technology Transfer (CITT) was established to facilitate transformation of research and innovations into commercial products and services. This Policy serves as a solid foundation, providing guidance, steps, activities, definitions, measurement tools, and conditions for generating, incubating and transferring technological innovations and traditional knowledge practices from various sources in Tanzania. Applicable to all MUST stakeholders, including employees, students and external innovators, this Policy aims to build trust, foster partnerships and empower stakeholders in innovation and technology transfer. Ultimately, the Policy positions MUST in a better posture to serve society and ensure the rational and successful commercialization of innovative works.

The Policy is a guiding framework for establishing and advancing the forthcoming MUST industrial linkages. It is openly clear that with this document, the University stands a good chance to contribute in addressing the shared challenge of fostering industrialization in urban and rural settings in Tanzania.

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Vice Chancellor

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LIST OF ABBREVIATIONS

ARC	Academic Research and Consultancy
BM	Bureaucratic Model
CoACT	College of Architecture and Construction Technology
CET	College of Engineering and Technology
CITT	Centre for Innovation and Technology Transfer
CMM	Corporate Management Model
CoAST	College of Agricultural Sciences and Technology
CoHST	College of Health Sciences and Technology
CoICT	College of Information and Communication Technology
CoHBS	College of Humanities and Business Studies
CoSTE	College of Science and Technical Education
CVCE	Centre for Virtual and Continuing Education
DAHRM	Directorate of Administration and Human Resources Management
DETS	Directorate of Estates and Technical Services
DF	Directorate of Finance
DLS	Directorate of Library Services
DNC	Directorate of Networking and Computing
DPI	Directorate of Planning and Investment
DICU	Directorate for Internationalization and Convocation Unit
DPSRP	Directorate of Postgraduate Studies, Research and Publications

DQA	Directorate of Quality Assurance
DSA	Directorate of Students Affairs
DUS	Directorate of Undergraduate Studies
DVC	Deputy Vice Chancellor
GPSA	Government Procurement Services Agency
HC	Health Centre
IAU	Internal Audit Unit
PRO	Public Relation Office
IPR	Intellectual Property Right
ITT	Innovation and Technology Transfer
LU	Legal Unit
MIST	Mbeya Institute of Science and Technology
MRCC	MUST Rukwa Campus College
MUST	Mbeya University of Science and Technology
PE	Personal Emolument
PFA	Planning, Finance, and Administration
PMU	Procurement Management Unit
PPRA	Public Procurement Regulatory Authority
VC	Vice Chancellor

DEFINITION OF KEY TERMS

MUST CITT considers the following terminologies of innovation and technology transfer:

Commercialization: It is the process of taking a product, service or innovation from the research and development stage and introducing it into the market for sale or adoption.

Copyright: It is a legal concept that grants the creator of an original work exclusive rights to its use and distribution, usually for a limited time, with the intention of enabling the creators to receive compensation for their intellectual effort.

Entrepreneurship: It is a process of identifying, creating, and pursuing opportunities to develop new products, services, or businesses. Entrepreneurs are individuals who take on the risks associated with starting and managing a new venture, often to achieve financial success and positively impact society.

Ethics: It is a set of moral principles, values and standards that guide individual behavior and decision-making in a given context. It involves distinguishing right from wrong and determining what is considered morally acceptable or unacceptable within a particular society, profession, or organization.

Grassroots Innovation: It is an innovative activity initiated and driven by individuals or communities at the local level, often in response to specific needs or challenges within

their environment.

Idea: It is a new or improved suggestion or solution to an existing problem or perceived opportunity.

Idea Generation: It is a process where individuals or groups of innovators and other stakeholders create new ideas.

Ideation: It is the formation of new notions and concepts.

Incubation: It is nurturing prospective entrepreneurs/innovators to think, develop and transform their creative ideas into viable and sustainable products, services, activities and businesses.

Innovation: It is a process of translating an idea or invention into a good or service that creates value for which customers will pay. It may be in the form of new or improved products/services. In this Policy, the word is sometimes used to represent invention and traditional knowledge practice, particularly when written innovator(s).

Innovation Ecosystem: The interconnected network of individuals, organizations, institutions, resources, and policies collectively contribute to fostering innovation and entrepreneurship within a particular geographical region or industry.

Intellectual Property: It is a creation of the mind, such as inventions, literary and artistic works, designs, symbols, names, and images protected by law.

Invention:	Is a product or a process that provides a new way of doing something or offers a new solution to a technical problem.
Patent:	It is an exclusive right granted for an invention in a given territory for a limited period, generally 20 years; after this period, an invention enters the public domain.
Spinout:	It is a startup company formed on the MUST intellectual property (IP) rights, in which the University holds an equity stake.
Technology Innovation:	It is a process of generating new ideas based on technology, capability, or knowledge to produce a new technology solution into a viable entity.
Technology Transfer:	It is the process of sharing and commercializing valuable technologies with the community.
Traditional Knowledge:	It is the collective knowledge, innovations, and practices developed over time by a specific community or culture, often passed down orally from generation to generation.

CHAPTER ONE

BACKGROUND INFORMATION

1.1 Introduction

The inception of Mbeya University of Science and Technology (MUST) dates back to 1986 when the Tanzanian Government established Mbeya Technical College (MTC). Formed initially to train full technicians at the certificate level (FTC) under the Russia - Tanzania Training Support initiative, MTC operated until mid-2005, offering programmes in architecture, electrical engineering, civil engineering, and mechanical engineering. In July 2005, MTC was transformed into the multidisciplinary Mbeya Institute of Science and Technology (MIST) through the National Council for Technical Education (Mbeya Institute of Science and Technology) Establishment Order, 2004, aligning with the government's vision to elevate it into a comprehensive University.

MIST accomplished significant milestones, including restructuring FTC programmes, introducing undergraduate degree programmes and witnessing increased student enrollment. On 29th March 2012, MIST transitioned into a fully-fledged University known as Mbeya University of Science and Technology (MUST) having been granted a Provisional License by the Tanzania Commission for Universities (TCU). The University officially receiving its charter on 20th August 2013. Currently, MUST offers training at certificate, diploma, bachelor's degree, master's degree and PhD in various fields.

The University aims to excel in science and technology, serving as an academic, research and consultancy center of excellence, contributing to societal improvement through research outcomes aligned with the National Research Agenda.

1.2 MUST Vision

The vision of Mbeya University of Science and Technology is to become the leading centre of excellence for knowledge, skills, and applied education in science and technology.

1.3 MUST Mission

The mission of Mbeya University of Science and Technology is to develop academically, technologically and socially competent students, staff and other stakeholders who will be responsive to the broader needs and challenges of the society specified by:

- (a) Facilitating appropriate tuition, practical training and support according to the needs of students and other customers;
- (b) Encouraging staff commitment to quality education and services, including research, consultancy and innovation;
- (c) Fostering lifelong learning, honesty, and responsibility;
- (d) Promoting an environment conducive to human development;
- (e) Promoting effective entrepreneurship and using appropriate technology that meets national and international needs and standards through skills and practical-oriented training, research, and consultancy;

1.4 Situation Analysis

The University's strategic mission is rooted in the terms 'Science and Technology' which are embedded in its name. This mission encompasses providing tertiary and higher education, promotion of technology development, engagement in research and consultancy, disseminating knowledge, and cultivating collaborations with other entities for national development. Responding to immediate challenges or adjusting to changing circumstances characterizes innovation. Conversely, capitalizing on innovation opportunities demands a proactive stance, actively identifying areas where creative concepts,

products, or services can meet unmet needs or enhance existing offerings. The Centre for Innovation and Technology Transfer at Mbeya University is urged to leverage this opportunity and address the gap by implementing policies that encourage innovation, thereby fortifying its activities for the betterment of society.

1.5 Justification

MUST currently houses several units dedicated to innovation, technology, entrepreneurship and industrial linkage matters. However, Rural Technology Park (RTP), with a new organizational structure, is now a department under CITT. Currently, RTP is working under CITT with a policy that doesn't recognize its presence in the CITT structure. There is a need for these units under CITT to operate effectively in coordination with a proper guideline that recognizes them. These developments demanded to review the Innovation and Technology Transfer Policy to make it more relevant and compatible with the prevailing situation.

Innovative ideas from staff, students and local entrepreneurs need to be effectively utilized or a proper system for managing and transforming them into actionable projects for the broader community benefit needs to be used. Additionally, MUST review and nurture the creative and innovative concepts generated, transfer technologies to the market, and protect its intellectual property assets by our students, staff and local entrepreneurs to better serve the nation.

Conversely, the commitment of MUST's management to supporting CITT and implementing the revised Innovation and Technology Transfer (ITT) Policy (hereinafter referred to as the Policy) creates a positive environment. This environment encourages students, staff and citizens to engage in invention, innovations and traditional knowledge practices, aligning with government and political objectives for innovation, technology, and industrial growth.

CHAPTER TWO

POLICY INTRODUCTION

2.1 Introduction

This chapter describes the policy vision, mission, goal, objectives, philosophy, and scope. The Policy must foster, mentor, and commercialize science, innovation and technology at MUST and the society to facilitate industrialization in Tanzania efficiently. Likewise, the Policy needs to cover academic and non-academic matters.

2.2 Policy Vision

To become the leading centre for innovation and technology transfer in science and technology.

2.3 Policy Mission

- (a) Developing, reviewing and implementing programmes, policies, and guidelines in the field of innovation and technology transfer.
- (b) Monitoring and evaluating the performance of innovation technology transfer programmes.
- (c) Facilitating training and mentoring of inventors, innovators and entrepreneurs through incubation, seminars, workshops, and boot camps.
- (d) Supervising research activities in liaising with the Directorate of Postgraduate Studies, Research and Publications.
- (e) Providing consultancy services in liaising with the Directorate of Internationalization and Convocation Unit (ICU).

2.4 Goal

To facilitate, supervise and commercialize the development of innovation and technology transfer competence in MUST activities and stakeholders for the excellence in attending the society.

2.5 Objectives

2.5.1 Main Objective

To outline MUST's approach to handling ideation, incubation and the transfer of inventions, innovations and technologies from diverse sources, including academia, non-academia, individuals and public/private institutions at various stages of development in Tanzania.

2.5.2 Specific Objectives

This Policy is intended to:

- (a) Provide guidelines, procedures, control lines, standards and desirable conditions to be followed by the MUST in incubation, innovations, entrepreneurship, rural technology transfer and business management activities;
- (b) Outline key roles for MUST and stakeholders in the ideation, incubation and technology transfer of inventions, innovations and traditional knowledge practices;
- (c) Guide identification, registration, training, mentoring, evaluation, assessment, development, review, facilitation and monitoring of right innovations and technology transfer performance;
- (d) Link MUST CITT performance to internal and external stakeholders;

- (e) Give assurance on ownership, protection, fairness and equity, honesty, neutrality, transparency and sustainable innovation development;
- (f) Set conditions for efficient and effective implementation and measurement of incubation, innovation, entrepreneurship and technology transfer programmes;
- (g) Direct the transfer of invention, innovation and technology into MUST, public and government priorities, plans and strategic goals;
- (h) Establish and ensure the rational and equitable mechanism that MUST and innovators adhere to innovation ethics and intellectual property rights;
- (i) Ensure the rational and equitable grounds for selecting the right innovative and technological venture for society's benefit;
- (j) Establish environment, instruments; and systems so that MUST and innovators achieve excellence in incubation, innovations and entrepreneurship;
- (k) Establish and ensure efficient and effective sharing and commercialization infrastructure of the right technologies;
- (l) Ensure an efficient and effective productivity environment for innovations, technology transfer and commercialization;
- (m) Identify, support and disseminate technologies specifically tailored to address the distinctive needs of rural communities;

2.6 Philosophy

The underlying philosophy centers on nurturing a collaborative environment where various participants, encompassing academia, industry and communities, collaborate harmoniously. MUST aim to establish a collaborative framework for innovation and technology transfer policies by emphasizing transparent communication, shared resources, and mutual advantages. This framework seeks to drive collective advancement, tackling global challenges and uplifting society. It encourages MUST to engage with the world cooperatively for the greater good.

2.7 Policy Scope

This Policy considers MUST and non-MUST communities to be important components of MUST's innovation and technology transfer ecosystem. This Policy covers the following issues: technology transfer and commercialization, innovation ecosystem, ethical issues, entrepreneurship and monitoring and evaluation.

CHAPTER THREE

POLICY ISSUES, STATEMENTS AND STRATEGIES

3.1 Introduction

This chapter describes Policy areas to be focused on in this MUST transformational era.

3.2 Policy Issue: MUST Innovation and Technology Terminologies

To create valuable and objective grounds for interpreting the Policy, pointing out key terminologies and their meaning in the MUST ITT context is necessary.

3.2.1 Policy Statements

To achieve collaborative, consistent, efficient and effective interpretation of terminologies, MUST shall:

- (a) Propose, approve, or add an interpretation process, document, or priority of the meaning or any necessary terminology explanation for performing the innovation and technology transfer process; and
- (b) Review the terms and meanings related to the innovation and technology transfer at MUST.

3.2.2 Policy Strategies

To implement the terminologies statements, MUST shall:

- (a) Implement a Dynamic Terminology Management System by establishing a centralized platform for collaborative input on the interpretation processes and terminologies relevant to the innovation and technology transfer process; and
- (b) Establish terms and meanings and review a task force dedicated to periodically assessing and refining the terms associated with innovation and technology transfer at MUST.

3.3 Policy Issue: Innovation and Technology Transfer Ecosystem

Information integration among stakeholders is vital to create the innovative value necessary to transform ideas and opportunities sustainably into fruitful investments.

3.3.1 Policy Statements

To acquire the innovation ecosystem value, MUST shall:

- (a) Establish criteria for prioritizing registering and supporting MUST ITT innovation ecosystem components;
- (b) Ensure transparent communication of all projects, inventive, innovative, and traditional knowledge practices from all innovation ecosystem stakeholders to MUST ITT information points;
- (c) Prepare innovator's programmes to improve understanding of startup lifecycle and funding process to make meaningful and productive investment engagements;
- (d) Create platforms to allow media and diversified investors and large corporations to efficiently and effectively support innovators from ideation concept to seed to growth;
- (e) Register all inventive, innovative, and traditional knowledge practice projects and activities at all levels;
- (f) Set the milestones, durations, and productivity standards for invention, innovation, and traditional knowledge practices; and
- (g) Guide the distribution of equity and expenses related to the innovation and technology transfer activities and performance.

3.3.2 Policy Strategies

MUST shall:

- (a) Establish an information point for ITT activities to acquire the innovation ecosystem value;

- (b) Develop a Comprehensive Evaluation Framework for MUST ITT Innovation Ecosystem Components by forming a multidisciplinary task force that includes experts from innovation, technology transfer, and relevant departments;
- (c) Establish a robust Information-sharing Protocol to guarantee transparent communication of all projects, inventive, innovative, and traditional knowledge practices from every innovation ecosystem stakeholder to designated MUST ITT information points;
- (d) Develop a Comprehensive Innovator's Education Programme to enhance understanding of the startup lifecycle and funding processes, enabling meaningful and productive investment engagements;
- (e) Establish Collaborative Innovation Platforms designed to facilitate streamlined support for innovators at various stages, from ideation and concept development to seed and growth phases;
- (f) Implement a Centralized Registration System to document and track all inventive, innovative, and traditional knowledge practice projects and activities across various organizational levels;
- (g) Establish clear milestones, durations, and productivity standards to guide and measure the progress of invention, innovation, and traditional knowledge practices, ensuring systematic and goal-oriented development; and
- (h) Develop a transparent strategy to oversee the equitable distribution of equity and expenses associated with innovation and technology transfer activities, ensuring fairness and alignment with performance outcomes.

3.4 Policy Issue: MUST Innovation and Technology Ethics

Innovation impacts can be positive, negative, wrong, and right, depending on the frame of reference. MUST Innovations' impacts are guided by the Tanzanian context of public and human interests. To achieve the intended innovative impact value necessary to sustainably generate, incubate, and commercialize the right ideas into

fruitful investments, Guaranteeing, Safeguarding, and Facilitating Excellence in the rights of creativity and innovators' prosperity is fundamental.

3.4.1 Policy Statements

To establish and ensure the rational and equitable mechanism that MUST and innovators adhere to innovation ethics and intellectual property rights, MUST shall:

- (a) Identify all inventions, innovations, and traditional knowledge practices that can be transferred and commercialized and protect them accordingly;
- (b) Periodically review the existing Intellectual Property rights policies to harmonize and reflect the existing culture, context, and desired equity;
- (c) Periodically collect consumers' suggestions on the IPR and ethical matters;
- (d) Establish programmes to support understanding of the IPR and Ethics in the invention, innovations, and traditional knowledge practices; and
- (e) Handle and direct on conflict matters relating to ethics and IPR.

3.4.2 Policy Strategies

To establish and ensure the rational and equitable Mechanism that MUST and innovators adhere to innovation ethics and intellectual property rights, MUST shall:

- (a) Establish pre-declaration and disclosure tools;
- (b) Set programmes to Strengthen IPR understanding;
- (c) Establish a regular feedback mechanism to collect consumers' suggestions on Intellectual Property Rights (IPR) and ethical matters, fostering continuous improvement and responsiveness to stakeholder concerns;
- (d) Implement educational programmes to enhance understanding of Intellectual Property Rights (IPR) and ethics in the invention, innovations, and traditional knowledge practices, fostering a responsible and ethical innovation culture; and

- (e) Implement a robust conflict resolution mechanism to effectively address and guide on ethics and Intellectual Property Rights (IPR) matters, ensuring fair and ethical resolution of conflicts.

3.5 Policy Issue: Idea Generation

MUST consider Ideas fundamental for creativity, invention, and innovations to succeed. Among others, inventors, innovators, and traditional technology holders need to technology transfer overview to refine their ideas. As such, ideas must be continually stimulated, generated, developed, communicated, actualized, and protected to and from the real world.

3.5.1 Policy Statements

To guarantee real-world, productive, and objective ideas, MUST shall:

- (a) Establish the MUST technological priorities following ministries and National plans;
- (b) Create academic-industrial-financiers collaborative ideation programmes
- (c) Prepare instruments for provisional protection of ideas;
- (d) Run innovation, entrepreneurship, and business training programmes for innovators;
- (e) Develop strategies and conditions to ensure full participation of the stakeholders and actors in ideation programmes; and
- (f) Identify and collect commercializable ideas from different catchment areas.

3.5.2 Policy Strategies

To guarantee real-world, productive, and objective ideas, MUST shall:

- (a) Align MUST technological priorities with national plans and ministries to establish and contribute to broader socio-economic strategically;

- (b) Implement collaborative ideation programs that bring together academia, industry, and financiers to foster innovation and bridge the gap between theoretical knowledge and practical applications;
- (c) Develop instruments for provisional protection of ideas to safeguard intellectual property during the early stages of development, facilitating secure exploration and innovation;
- (d) Conduct comprehensive innovation, entrepreneurship, and business training programmes to empower and equip innovators with the skills necessary for successful ventures;
- (e) Formulate strategies and conditions to ensure the complete engagement of stakeholders and actors in ideation programmes, fostering a collaborative and inclusive innovation environment; and
- (f) Initiate activities related to market research, networking and collaboration, open innovation platforms, cross-industry collaborations, and ecosystem mapping.

3.6 Policy Issue: ITT Personnel and Responsibilities

Transforming ideas into commercially appreciated technologies requires enormous effort, which involves identifying, tapping, and utilizing the actors' and participants' talent, intellect, endurance, efforts, and creativity. Such an effort may necessitate restructuring the university management to suit the innovation market and purpose. It is important to balance the public and private interests to impart and operationalize the intended energy to the executors and responsibilities.

3.6.1 Policy Statements

To ensure a productivity environment for innovation and technology transfer, MUST shall:

- (a) Direct and delegate Authoritative power necessary for the performance of the Centre for Innovation and Technology Transfer and its Units;

- (b) Oversee, formalize, and participate in all matters related to invention, innovation, technology transfer, and commercialization at MUST to conform to the University's goals;
- (c) Establish and recommend a motivational schemes for innovation and technology transfer activities;
- (d) Recommend, Standardize, and participate in all activities and collaborative efforts related to innovation and technology transfer obligations and matters at MUST and related to MUST society;
- (e) Supervise the disbursement, and collection of all financial rights from all activities and collaborative efforts related to innovation and technology transfer matters at MUST and to MUST society as per CITT recommendations; and
- (f) Direct on all technology transfer matters requiring MUST, RTP, and stakeholder collaboration. Report on the performance and information related to the key stakeholders and partnership with the MUST higher authorities.

3.6.2 Policy Strategies

To establish guidelines, procedures, steps, and standards to facilitate the utilization of productive rules, regulations, and objectives MUST:

- (a) Ensure guidelines are consistent with MUST authoritative documents
- (b) Ensure efficient involvement of stakeholders;
- (c) Implement a transparent approval process for CITT by endorsing proposed, recommended, and accepted personnel and engagement criteria, ensuring alignment with innovation and technology transfer objectives;
- (d) Establish an integrated oversight approach to formally participate in and manage all aspects of invention, innovation, technology transfer, and commercialization at MUST, aligning closely with University goals;

- (e) Institute financial governance and motivational schemes for ITT staff, MUST personnel, student innovators, and other stakeholders as per ITT recommendations to enhance engagement and performance; and
- (f) Establish a systematic reporting strategy to communicate performance and pertinent information regarding key stakeholders and partnerships to MUST higher authorities, ensuring transparency and informed decision-making.

3.7 Policy Issue: Innovation and Technology Transfer

The effectiveness of innovations at MUST hinges on their appropriateness, business viability, and competitive strength in addressing global and Tanzanian challenges. Achieving innovative value requires an apt management approach, a quality culture, and entrepreneurial skills. While universities like MUST focus on producing graduates with societal benefits, they also generate valuable technologies. The current trend emphasizes universities' responsibility to utilize these technologies effectively. However, translating ideas into commercially viable innovations, entrepreneurships and technologies exceeds the capacities of MUST alone. To achieve impactful transfer and commercialization; recruiting and establishment of the right individuals, facilities, and structures are all essential.

3.7.1 Policy Statements

To establish and ensure efficient and effective transferring, sharing and commercialization of innovations for the right technologies, MUST shall:

- (a) Support collaboration and knowledge sharing in technology transfer and commercialization activities and innovations, entrepreneurship and rural technologies transfer efforts;
- (b) Streamline technology transfer and commercialization activities;
- (c) Guide on the measurement and incentives related to innovations and technology transfer;
- (d) Facilitate rural innovation and technology transfer in local communities;

- (e) Establish tools, techniques, and systems for the efficient and effective performance assessment, evaluation, monitoring of incubation, innovations and technology transfer;
- (f) Develop programmes for innovations, entrepreneurship and technologies registration, ideation, IP generations and Protections, incubation, technology transfer, and commercialization; and
- (g) Develop performance metrics of innovations and technology transfer tools efficiency and effectiveness.

3.7.2 Policy Strategies

To establish and ensure efficient and effective transferring, sharing and commercialization of infrastructures for the right technologies, MUST shall:

- (a) Use a customer-focused management philosophy;
- (b) Establish dedicated offices or units for transfer of technology to industry;
- (c) Promote collaboration between research institutions and industry stakeholders;
- (d) Prioritize the utilization of MUST RTP potentials in rural technologies related efforts;
- (e) Provide financial support, grants, and incentives to innovations, entrepreneurship and technology efforts;
- (f) Create supportive programmes, frameworks and initiatives to innovations, entrepreneurship and technology efforts;
- (g) Develop policies and procedures for managing intellectual property (IP) rights arising from researches, innovations, entrepreneurship and technology efforts;
- (h) Enhance technology transfer infrastructure and collaborative spaces for innovations, entrepreneurship and technology efforts;
- (i) Streamline regulatory frameworks and administrative procedures related to innovation and technology transfer;

- (j) Promote open innovation, knowledge sharing and collaborative problem-solving route;
- (k) Provide training and capacity building programmes, workshops, and seminars related to researches, innovations, entrepreneurship and technology efforts; and
- (l) Establish metrics and indicators to monitor and evaluate the effectiveness and efficiency in the innovations, entrepreneurship and technology efforts.

3.8 Policy Issue: Innovation, Entrepreneurship, and Rural Technologies Incubation

Mentoring, nurturing, and guiding inventors, innovators, and traditional knowledge holders to deliver marketable products, services, and investments requires the right combination of cultural, technical, and commercial skills and infrastructures. On the other hand, multi-stakeholder involvement is inevitable, calling upon maneuvering around regulations and different organizations' cultures and backgrounds.

3.8.1 Policy Statements

To implement the statement MUST shall:

- (a) Establish robust incubation infrastructure and spaces to support the growth and development of startups and early-stage ventures;
- (b) Promote diversity, equity, inclusion and sustainable teams and ecosystem;
- (c) Support investment in rural technologies clusters and incubators;
- (d) Commit resources in addressing funding gaps and accessing funds;
- (e) Establish mechanisms to measure, evaluate and tracking programmes and performances;
- (f) Invest in expanding digital infrastructure and programmes to unlock opportunities and empower rural communities;
- (g) Foster culture of testing and experimenting ideas related to innovations, entrepreneurship and technologies; and

- (h) Facilitate access to essential resources to help incubates navigate the challenges of launching and scaling their ventures.

3.8.2 Policy Strategies

To effectively implement the policy issue MUST shall:

- (a) Establish dedicated supportive environment and personnel for incubation activities;
- (b) Incorporate incubation programmes in core university programmes to foster innovation and entrepreneurship mindset;
- (c) Support interdisciplinary Collaboration between students, faculty, and across departments to trigger groundbreaking technologies and ventures;
- (d) Provide seed funding, grants, or microloans to support the development and growth of early-stage ventures to help bridge the funding gap;
- (e) Foster partnerships and collaborations with industry stakeholders to provide for real-world experience, mentorship, and access to market opportunities;
- (f) Provide ongoing support to incubation graduates through dedicated programmes, networks, and resources;
- (g) Organize events, competitions, and networking sessions to promote culture and connect incubates with potential investors, mentors, and customers;
- (h) Extend incubation services to support incubates beyond graduation;
- (i) Establish sustainable and industrious mechanisms to measure and evaluate the impact of incubation efforts;
- (j) Engage key stakeholders, including internal teams, external partners, and end-users, to gather diverse perspectives and insights;
- (k) Identify key projects within MUST that have the potential to address challenges in rural communities and have a positive socio-economic impact;

- (l) Research and identify potential funding opportunities from government grants, private foundations, impact investors, and other relevant sources;
- (m) Categorize these opportunities based on their alignment with rural-focused innovation projects;
- (n) Develop compelling narratives and storytelling materials highlighting the positive impact of rural-focused innovations supported by MUST; and
- (o) Conduct a comprehensive assessment of innovations, entrepreneurship, technologies and business efforts related to technologies and knowledge within the innovation ecosystem. This assessment should include an analysis of existing processes, rural technologies, and knowledge management strategies businesses employ.

3.9 Policy Issue: Promotion of Sustainable Rural Technology Ecosystem

Promoting a sustainable rural technology ecosystem involves fostering innovation and collaboration in rural areas. By supporting the development of environmentally friendly technologies and providing access to resources and knowledge, we can empower rural communities to thrive economically while preserving their natural resources for future generations.

3.9.1 Policy Statements

To implement the Policy, MUST shall:

- (a) Support and Encourage rural industrialization through innovations, entrepreneurship and technologies;
- (b) Guide the innovation and technology transfer efforts in rural communities;
- (c) Undertake empowerment programmes related to technology transfer programmes;
- (d) Conduct technological needs assessment in the rural communities;
- (e) Identify, map and collect all transferable and environmentally sustainable rural innovations and technologies; and

- (f) Link Rural Technology Park efforts with local and international stakeholders of technology transfer.

3.9.2 Policy Strategies

To implement the policy issue, MUST shall:

- (a) Implement capacity-building initiatives to enhance the skills and knowledge of individuals and communities in rural areas;
- (b) Establish and provide financial supports for researches and development projects focused on sustainable rural technologies transfer;
- (c) Foster Collaborations and partnerships between the public sector, private enterprises, and non-governmental organizations and community-driven development by involving planning, decision-making, and implementation of rural technology projects;
- (d) Engage local communities in awareness and internationalisation forums and events related to innovation, entrepreneurship and technologies;
- (e) Establish a platform, forums and outreach programmes for local communities members involvement and participation in technology related efforts;
- (f) Emphasize linkage researches, innovations and rural technology transfer at MUST; and
- (g) Institute Special Reserve programmes for rural innovations and technologies development and support.

3.10 Policy Issue: Resource Allocation

MUST resource allocation involves effectively distributing available resources to support innovation and technology transfer initiatives at the Centre for Innovation and Technology Transfer (CITT). By strategically allocating funds, personnel, and other resources, MUST can maximize its impact in fostering collaboration, driving innovation, and facilitating the successful transfer of technology to benefit society.

3.10.1 Policy Statements

With resource allocation, MUST shall:

- (a) Prepare a comprehensive resource management strategy for CITT, emphasizing transparency and accountability in allocating human, financial, and technological resources to enhance the effectiveness of innovation projects and technology transfer activities; and
- (b) Establish a strategic resource allocation framework within CITT, optimizing budgetary allocations to prioritize innovation and technology transfer initiatives, ensuring efficient utilization and alignment with organizational goals.

3.10.1 Policy Strategies

To implement MUST shall:

- (a) Establish a data-driven strategy for CITT's resource allocation, emphasizing continuous optimization of budgetary allocations to favor innovation and technology transfer initiatives;
- (b) Establish an efficient resource allocation strategy in CITT, utilizing data-driven decision-making to optimize budgetary allocations; and
- (c) Prioritize funding for innovation and technology transfer initiatives, ensuring alignment with.

3.11 Policy Issue: Intellectual Property Policy

Universities are hubs of knowledge creation, where faculty, researchers, and students often generate valuable intellectual property such as inventions, discoveries, software, and artistic works. There is a need of Intellectual Property Policy in order efficiently and effectively protect and maximize the value of intellectual property assets, promote innovation and knowledge transfer, and foster a culture of responsible researches, innovations, entrepreneurships and businesses within the MUST scope of operation as well as CITT specific activities.

3.11.1 Policy Statements

With the available resources, MUST shall:

- (a) Develop a comprehensive MUST Intellectual Property (IP) policy that ensures efficiency in protection of inventions, innovations, and traditional knowledge practices;
- (b) Establish guidelines for IP ownership, management, and commercialization;
- (c) Ensure transparency and fairness in IP rights distribution and licensing;
- (d) Provide mechanisms for resolving disputes related to IP ownership and infringement; and
- (e) Promote awareness and education on IP rights and responsibilities among stakeholders.

3.11.2 Policy Strategies

To implement MUST shall:

- (a) Collaborate with experts and stakeholders in drafting of IP policy;
- (b) Conduct regular reviews to align with changing legal frameworks needs;
- (c) Implement training programmes to educate stakeholders on IP policies and procedures;
- (d) Establish procedures for IP registration, protection, and enforcement;
- (e) Associating with industry and government agencies to leverage IP assets for economic development;
- (f) Monitor and enforce compliance with IP policies and regulations;
- (g) Provide resources and support for IP management and commercialization efforts; and
- (h) Foster a culture of respect for intellectual property rights.

3.12 Policy Issue: Resource Mobilization

Acquiring the necessary financial, human, and material resources to support innovation and technology transfer initiatives within MUST is vital. The University

policy of resource mobilization may not adequately serve the interest of CITT in securing resources for innovations, entrepreneurship, rural technologies incubation, as well as to support the infrastructure and personnel needed to facilitate technology transfer activities.

3.12.1 Policy Statements

With the available resources, MUST shall:

- (a) Develop a comprehensive MUST Mobilisation Policy that ensures efficiency in acquiring resources for incubation, inventions, innovations, entrepreneurship, business management, rural technology and traditional knowledge practices;
- (b) Mobilize financial resources for innovation and technology transfer initiatives;
- (c) Collaborate with funding agencies, industry partners, and government entities supporting innovation and technology transfer activities;
- (d) Establish mechanisms for supporting innovation and technology transfer projects and activities;
- (e) Ensure fairness, transparency and accountability in resource allocation processes for innovation and technology transfer activities; and
- (f) Foster a culture of attracting investment and support for technology transfer initiatives among MUST innovators, entrepreneurs and technologists.

3.12.2 Policy Strategies

- (a) Establish a dedicated office or unit responsible for coordinating resource mobilization efforts for innovation and technology transfer;
- (b) Develop a comprehensive resource mobilization strategy for innovation and technology transfer;

- (c) Engage in proactive outreach and networking activities to identify potential funding sources and partnership opportunities;
- (d) Provide training and capacity-building programmes for innovators, entrepreneurs, businesspersons and technologists on grant writing, fundraising, and investment pitching;
- (e) Create platforms for funding activities for the innovation and technology transfer activities;
- (f) Collaborate in funding proposals and investment opportunities for technology transfer projects;
- (g) Advocate for government support and policies that incentivize investment in innovation and technology transfer; and
- (h) Evaluate and monitor the effectiveness of resource mobilization efforts regularly, adjusting strategies as needed to optimize innovation and technology transfer outcomes.

3.13 Policy Issue: Innovation and Technology Transfer Ethics

Ethics is paramount in ensuring that innovations and technology transferring from MUST to the wider society is conducted successfully and responsibly. Ethics are essential for promoting trust, integrity, and accountability in innovation ecosystems. By adhering to best practices, MUST innovation and technology transfer activities can efficiently benefit society and minimize the potential risks.

3.13.1 Policy Statements

To achieve an adherence to ethics, MUST shall:

- (a) Develop and enforce ethical guidelines for innovation and technology transfer ethics and intellectual property;
- (b) Establish procedures for ethical review and approval of innovation and technology transfer agreements and partnerships;

- (c) Promote equitable access to technology and intellectual property rights, particularly in collaborations with underserved communities;
- (d) Provide education and training on ethical considerations in innovation and technology transfer for stakeholders;
- (e) Ensure that innovation and technology transfer activities align with the MUST policies, values, mission, and societal impact goals; and
- (f) Address ethical challenges related to confidentiality, conflicts of interest, and potential misuse of transferred technologies.

3.13.2 Policy Strategies

To establish and ensure the rational and equitable Mechanism that MUST and innovators adhere to innovation ethics, MUST shall:

- (a) Appoint Ethics Review Committee for a specifically focused on innovation and technology transfer activity;
- (b) Develop ethics guidelines and protocols for innovation and technology transfer activities;
- (c) Run programmes to raise awareness of ethical issues and best practices among innovation and technology transfer MUST ITT stakeholders;
- (d) Collaborate with MUST instruments for monitoring and auditing innovation and technology transfer activities and processes to ensure compliance with ethical standards and regulations;
- (e) Solicit feedback and input on ethical considerations in innovation and technology transfer;
- (f) Encourage the adoption of fair and transparent licensing and revenue-sharing models to support equitable technology access and distribution.
- (g) Incorporate ethical impact assessments into innovation and technology transfer decision-making processes to evaluate potential social, environmental, and economic implications;
- (h) Establish channels for reporting ethical concerns related to innovation and technology transfer activities; and

- (i) Facilitate prompt investigation and resolution of ethical matters.

CHAPTER FOUR

POLICY COMMUNICATION AND IMPLEMENTATION

4.1 Introduction

This section outlines the communication and implementation strategies crafted to strengthen MUST ITT's activities, systems, and processes in consistently capturing, implementing, and managing inventive, innovative, and traditional knowledge practices and ideas throughout their life cycles. It emphasizes the importance of effectively disseminating the MUST-ITT policy and executing it within the University and the broader Community. The chapter elucidates the communication process, ensuring that policies are conveyed clearly and accessible to individuals and relevant stakeholders. Successful policy communication and implementation are integral to realizing the mission and objectives of MUST-ITT, promoting transparency, compliance, and understanding among those impacted by the Policy.

4.2 Organizational Structure

In light of the MUST vision and mission presented above, the central areas of policy ownership and implementation will be CITT. The innovation and technology transfer functions include:

4.2.1 Centre for Innovation and Technology Transfer

The Centre for Innovation and Technology Transfer shall:

- (a) Develop, review, and implement programmes, policies, and guidelines in the field of innovation and technology transfer;
- (b) Monitor and evaluate the performance of innovation technology transfer programmes;
- (c) Facilitate training and mentoring of inventors and innovators through incubation, seminars, workshops, and boot camps;

- (d) Supervise research activities in liaising with the Directorate of Postgraduate Studies, Research and Publications; and
- (e) Provide consultancy services in liaising with the Directorate of Public Services and External Links.

4.2.2 The Department of Incubation and Innovation

The Department of Incubation and Innovation under CITT shall be responsible for the following:

- (a) Conduct training and mentoring of inventors and innovators;
- (b) Handle innovators' complaints related to innovations and incubation;
- (c) Establish and run Innovations and incubation in liaison with other partners;
- (d) Coordinate all matters related to Technology Transfer;
- (e) Maintain a database of Innovators;
- (f) Handle all matters related to registration and assessment of students' Innovation programmes; and
- (g) Coordinate the evaluation of performance programmes and keep periodic implementation reports of programmes.

4.2.3 The Department of Entrepreneurship and Business Management

The Department of Entrepreneurship and Business Management shall do the following:

- (a) Conduct training and mentoring of Entrepreneurship and Business Management programmes;
- (b) Develop a business plan of innovations;
- (c) Advertising and marketing of innovative products;
- (d) Management and financial advisory;
- (e) Liaise with various experts in innovation and technology transfer worldwide to nurture innovation, entrepreneurship, intellectual property rights, and technology evaluation;

- (f) promote Intellectual Property Rights (IPR) awareness at the University level and beyond;
- (g) Maintain a database of the Entrepreneur and Business activities;
- (h) Design mechanisms that allow academic staff, graduates, and individuals to convert their research outputs and/or business ideas to commercial companies;
- (i) Handle all matters related to students Entrepreneurship and Business Management of Institute programmes;
- (j) Attract investment in innovation and commercialization of research results by creating funding mechanisms;
- (k) Develop and maintain proper student and staff welfare programmes and
- (l) Coordinate the performance evaluation of staff and programmes and keep periodic implementation reports of programmes; and
- (m) Handle students and academic staff complaints related to Department of Entrepreneurship and Business Management programmes.

4.2.4 The Department of Rural Technology Park

The Department of Rural Technology Park shall handle the following functions:

- (a) Develop, review, and implement programmes and guidelines for the rural technology park;
- (b) Develop a manual for training entrepreneurship, agribusiness, and technology in agriculture, livestock keeping, food processing, beekeeping, low-cost Construction, mining, and renewable energy;
- (c) Provide training to the rural Community;
- (d) Provide technical, managerial, and constructive support to rural Community;

- (e) Provide incubation services to startup companies interested in rural technologies;
- (f) Provide information access points and office space for emerging rural entrepreneurs;
- (g) Monitor and evaluate the performance of Rural Technology Park programmes;
- (h) Supervise research activities in liaising with the Directorate of Post Graduate Studies, Research and Publications (DPSRP);
- (i) Provide consultancy services in liaising with the Directorate of Internationalization and Convocation Unit (IC); and
- (j) Perform any other activity as may be directed from time to time by the Director, Center for Innovation and Technology Transfer (CITT).

4.2.5 The College-CITT Liaison Coordinators

There shall be College-CITT Liaison Coordinators who will do the following:

- (a) Represent the CITT Activities Director in the relevant college;
- (b) Communicate ITT matters from and to the college;
- (c) Support students on ITT activities in the college;
- (d) Liaise with CITT on all matters relating to ITT activities; and
- (e) Inform the University of the performance of CITT.

4.2.6 The CITT Community Coordinator

There shall be CITT Community Coordinator who shall:

- (a) Coordinate ITT matters from and to the Community;
- (b) Liaise with CITT on all MUST ITT activities and Community matters; and
- (c) Liaise with CITT on all matters related to MUST CITT Alumni Startups companies.

4.3 Composition of the CITT Management Committee

In light of the MUST vision and mission presented above, the administrative organs will include:

Table 1: Composition of the CITT Management Committee

SN	Position	Role
1	DVC ARC	Chairperson
2	Director of CITT	Secretary
3	Director (DOS, IC, QA and PSRP, PRO)	Member
4	Head of Rural Technology Park	Members
5	Head of Incubation and Innovation	Members
6	Head of Entrepreneurship and Business Management	Members
7	CITT College Coordinators	Member
8	Two Incubates Representatives	Members
9	Two External stakeholder Representatives: one should	Members

4.4 Roles of the CITT Management Committee

In the light of the MUST vision and mission presented above, the CITT Management Committee shall:

- (a) Oversee the delivery and enhancement of the frameworks, ensuring that it meet internal and external customers' expectations;
- (b) Ensure effective student engagement and representation of student innovations in the MUST performance;
- (c) Maintain and ensure all erroneous actions are addressed and support sharing good practices;
- (d) Suggest areas for improvement and recommend to higher authorities;

- (e) Act on recommendations and requests from CITT;
- (f) Bring CITT matters to the attention of the University's higher authorities;
- (g) Recommend on the ITT urgent matters related to:
 - (i) Department of Innovation and Incubation;
 - (ii) Department of Entrepreneurship and Business Management;
and
 - (iii) Department of Rural Technology Park.
- (h) Propose and recommend the objectives, guidelines, procedures, steps, and standards related to innovation and technology transfer at MUST; and
- (i) Ensure that activities and procedures conform to MUST ITT policy and Strategic Plan.

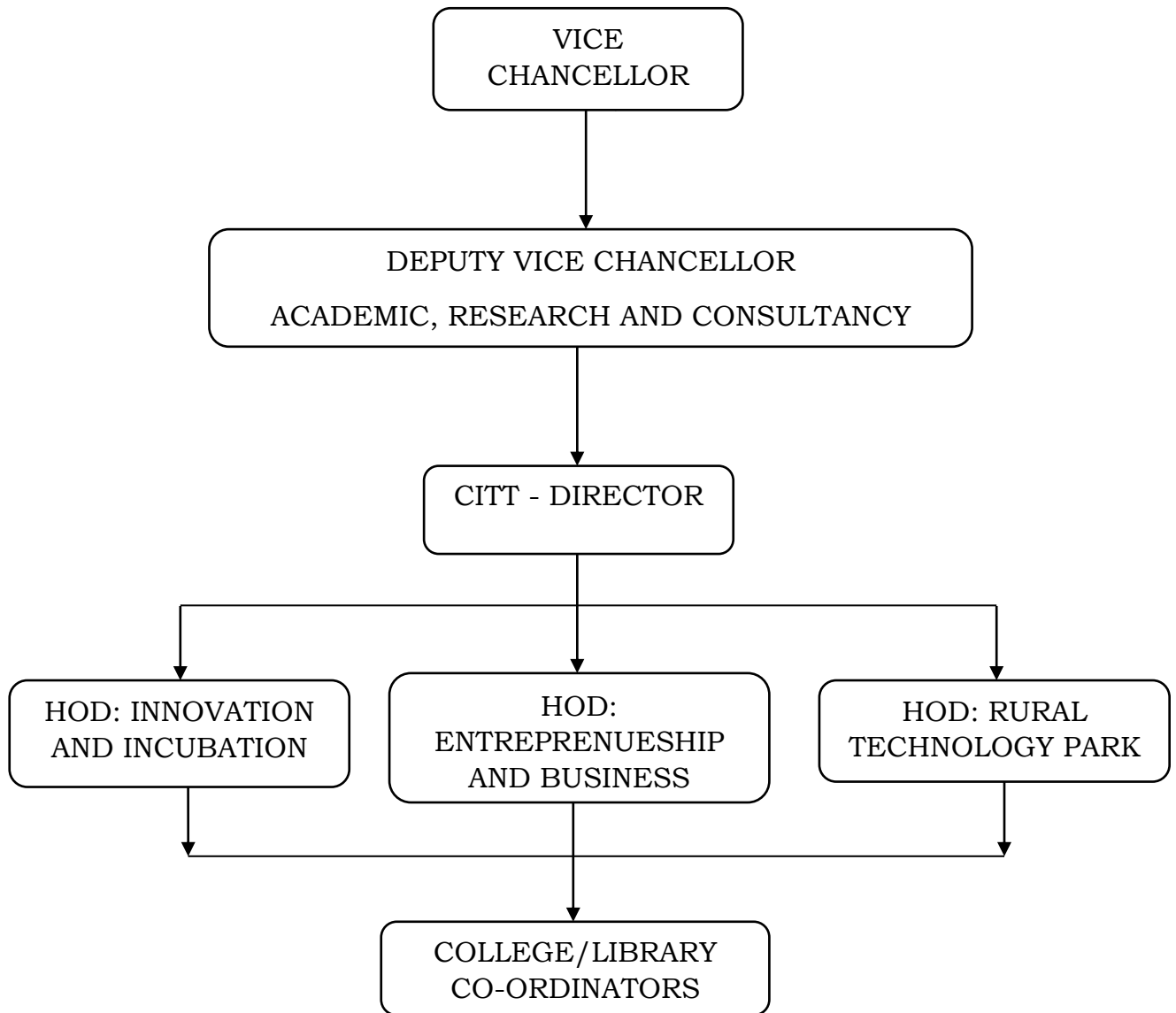


Figure 1: Organizational Structure for Centre for Innovation and Technology Transfer

4.5 Rights and Obligations/Roles of Stakeholders

In light of the MUST vision and mission presented, the administrative organs will include the following:

4.5.1 Innovators' Rights

In the light of the MUST vision and mission presented above, the innovator's rights will:

- (a) As Stipulated in the Innovation Technology Transfer (ITT) Guidelines;
- (b) Follow the interpretation as given by the CITT; and
- (c) Be guided by the MUST IP Policy.

4.5.2 Innovators' Obligations

In the light of the MUST vision and mission presented above, the innovators Obligations will:

- (a) As Stipulated in the Innovation Technology Transfer (ITT) Guidelines;
- (b) Follow the interpretation as given by the CITT; and
- (c) Be guided by the MUST IP Policy.

CHAPTER FIVE

MONITORING AND EVALUATION

5.1 Introduction

This segment furnishes managerial tools and methodologies for steering activities, systems, and processes toward attaining the envisioned performance for MUST ITT. To consistently secure the capturing, implementation, and management of inventive, innovative, and traditional knowledge practices throughout their life cycles, it is crucial to establish monitoring and evaluation efficiency tools in advance. Achieving this requires conditioning and contextualizing the MUST - ITT policy implementation to align with other MUST organs, CITT, and Public Organs. The systematic collection, analysis, and assessment of data for monitoring and evaluating innovation and technology transfer policies utilize various tools. In this context, key performance indicators will be established and determined using MUST staff implementation and monitoring tools.

5.2 Periodical Evaluation of the Policy

The MUST Quality Assurance Office, MUST Internal Auditors, and CITT will collaboratively conduct periodic evaluations of the Policy to ensure its effectiveness and adherence to established standards. The process involves a comprehensive examination of key components such as the implementation of guidelines, the efficiency of monitoring and evaluation mechanisms, and the overall impact on innovation and technology transfer activities. The Quality Assurance Office will play a pivotal role in overseeing the management of reports, articulating terms of reference for evaluations, and ensuring that the Policy aligns with MUST's mission and objectives. Simultaneously, internal auditors will utilize their expertise to assess compliance, risk management, and the efficiency of internal controls associated with the Policy.

Through this joint effort, the periodic evaluation aims to provide valuable insights for continuous improvement, identify areas of strength, and address any challenges or discrepancies that may arise during the policy

implementation. The collaboration between the Quality Assurance Office and Internal Auditors ensures a robust and multifaceted evaluation process that contributes to the sustained success of the innovation and technology transfer Policy at MUST.

5.3 Evaluation Report

Units involved in monitoring and evaluation must create reports following MUST regulations. These reports will be distributed to stakeholders at different levels, encouraging their input on the progression of ITT activities. The MUST Quality Assurance office will supervise the handling of ITT reports and specify their terms of reference. Monitoring and evaluation bodies are required to generate reports as stipulated by MUST, and these reports will be communicated to stakeholders across all levels to gather their opinions and perspectives on the advancement of ITT activities.

5.4 Policy Review and Amendments

The amendment of the ITT Policy will adhere to the necessary procedures once the identified needs are recognized. Crafting the Policy requires a substantial investment of effort to make a significant impact within a defined timeframe. Nevertheless, as change is a constant, revisiting a policy becomes inevitable if a commitment to continuous improvement is to be maintained. However, the grounds for reviewing must be objective, rational, and justifiable, especially considering societal interests.

5.4.1 Major Review and Amendments

The ITT Policy will be subject to major Review after three years. Transparency and stakeholders' collaboration is important to achieve a multidimensional improvement in the reviewed policies process. To ensure the drafting of the more foundational, integrative, and productive MUST ITT policy for Excellence in innovations and technology transfer and commercialization, MUST through CITT shall:

- (a) Formulate a team and propose grounds for a policy review to improve guidelines performance.

- (b) Collect innovators' opinions on the need for a Review of the Policy's minor amendments.
- (c) Approve the review process of the guidelines.
- (d) Record the improvements made for the major review incorporation and approval.
- (e) Propose team and grounds for policy review to higher authorities
- (f) Propose and Collect opinions on the need for a Review of the Policy and present them to the relevant authorities
- (g) Participate in the review process of the Policy
- (h) Propose and Facilitate the policy review process, including benchmarking

5.4.2 Minor Review and Amendments

The ITT Policy is scheduled for a minor review every year. Transparency and collaboration are crucial to comprehensive guideline enhancements and associated monitoring and evaluation tools. To guarantee the effective incorporation of the envisioned improvements in the guidelines for innovation, technology transfer, and commercialization, MUST, through CITT, shall:

- (a) Formulate a team and propose grounds for a policy review to improve guidelines performance;
- (b) Collect innovators' opinions on the need for a Review of the Policy's minor amendments;
- (c) Recommend the review process of the guidelines; and
- (d) Record the improvements made for the major review incorporation and approval.

5.4.3 Emergent amendments

Ensuring the commercial competitiveness of MUST's Innovation and Technology Transfer activities, plans, and actions also entails effectively handling emergent and unforeseen events, occasions, and programmes. It is crucial to have provisional and emergent policy amendment frameworks to manage urgent and essential matters without disrupting ongoing MUST ITT

activities. The ITT Policy allows for amendments in critical situations. This approach aims to prevent inconsistency and inefficiency in addressing provisional, emergency, unforeseen, and unplanned events and programmes related to innovation, technology transfer, and commercialization. MUST will:

- (a) Recommend the review process of the policy item;
- (b) Be central in all activities related to settling, planning, and executing the policy amendments issues;
- (c) Possess the authority to suggest, endorse, or sanction the matter under consideration, considering factors such as issue categorization and formalization, deliberation, proprietary and ethical considerations, quality assurance and control, information dissemination to the MUST community, and team composition; and
- (d) Record the improvements made for the major review incorporation and approval.

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APPROVAL

At its 40th Meeting held on 6th day of March 2024, the COUNCIL of Mbeya University of Science and Technology RECEIVED, DISCUSSED and APPROVED the Revised Innovation and Technology Transfer Policy .

Hon. Zakia Hamdani Meghji

CHAIRPERSON

Adv. Lugano Mwakilasa

SECRETARY