Accelerating the Transformation of SADC Education Institutions for Research and Innovation

Professor Aloys N. Mvuma
Vice Chancellor: Mbeya University of Science and Technology, Tanzania

ABSTRACT
This paper acknowledges deliberate efforts made by Southern African Development Community (SADC) member states in transforming higher learning institutions (HLIs) to address contemporary societal and developmental challenges. It further proposes important actions that need to be taken by HLIs in order to accelerate and sustain the transformation and realise the intended outcomes. Specifically, curricula development and review, infrastructure development, strategic partnerships with the industry, and policies and governance have been suggested and discussed. Finally, a few case studies that demonstrate current efforts being made by SADC member states in transforming HLIs are discussed.

Keywords: higher education transformation, higher learning institutions, curriculum development, strategic partnerships, institutional reform

Introduction

SADC member states face educational and developmental challenges that can be addressed through concerted research and innovation. Despite notable progress, a significant research output and innovations gap remains between SADC's output and set global standards. Therefore, deliberate, systematic and sustainable transformation of SADC's education institutions is needed in order to narrow this gap and create vibrant, research-driven institutions that produce relevant research and innovative solutions to local and regional challenges. This transformation is necessary to drive sustainable development and enhance regional competitiveness, thus contributing to the attainment of the strategic objectives of the *Regional Indicative Strategic Development Plan (RISDP) 2020-2030* (SADC, 2021).

It is against this background that a thorough discussion on accelerating the transformation of the Southern African Development Community (SADC) higher education institutions (HEIs) is critically important for the socio-economic development of the region. The past few years have witnessed commendable efforts by member states in initiating and implementing the transformation of various aspects pertaining to education systems in general, and higher education institutions in particular. However, for effectiveness and sustainability, member states must seriously explore and devise well-thought out support and catalyst

strategies and actions as pillars for accelerating the transformation of SADC higher learning institutions (HLIs) to foster research and innovation.

Such actions involve enhancing research capabilities, fostering innovation and aligning educational outcomes with industry needs. These actions also address systemic issues such as outdated and irrelevant curricula, inadequate financial and human resources, insufficient and dilapidated infrastructure, and inadequate and improper policies and governance structures. The absence of these enhancements and redresses is a threat to the attainment of broader and sustainable progress.

Strategic Actions to Accelerate Transformation

Accelerating the envisioned transformation necessitates addressing four main issues, namely, curriculum and pedagogy, infrastructure and resources, collaboration and partnerships, and policy and governance. This requires collective effort from policymakers, educational leaders, industry partners and researchers to drive this transformation agenda and ensure a prosperous future for the SADC region and its member states.

Curriculum and Pedagogy

Accelerated transformation demands well-designed curricula, effective pedagogy and empowered faculty (Maphosa *et al*., 2014). Periodic revision and improvement of curricula by incorporating courses and modules that respond to contemporary issues facing the region and its member states is essential (Agbaje, 2023). For effectiveness, the process of curricula review must be as participatory as possible. This can be achieved by engaging key stakeholders including public and private institutions, industrial and business communities, and alumni through tracer studies and market demand surveys. The revisions should aim at integrating cutting-edge research topics and emerging technologies into curricula, while embedding entrepreneurial skills. It is very important to emphasise interdisciplinary studies to address complex, real-world challenges facing the region, for instance, climate change and its impact on agriculture.

Moreover, effective delivery of updated curricula calls for continuous enhancement of teaching methods that adopt active learning methodologies and innovative pedagogy. More importantly, problem-based learning and experiential learning are essential to better prepare students for research and innovation at undergraduate and graduate levels. Furthermore, SADC education institutions need to capacitate academic staff by investing in continuous professional development for educators to stay abreast of the latest research and teaching practices.

Infrastructure and Resources

For the transformation to bear the intended outcome, investment in research and innovation facilities is indispensable (Njuguna & Itegi, 2013). This calls for the establishment of new laboratories and the upgrading of existing ones, as well as the installation of state-of-the-art equipment to support high-quality research.

Investment in libraries and technological infrastructure to provide access to up-to-date global research databases and information sources such as journals and publications, cannot be overemphasised. Equally important is the urgent need to invest in innovation and technology transfer infrastructure, including incubation centres and science and technology hubs or parks. These centres and hubs are crucial in creating an enabling environment for fostering innovation and stimulating the establishment of start-ups. Establishing dedicated research centres with specialised equipment can also be an effective means to support research conducted by SADC education institutions.

This kind of transformation definitely demands funding (Akuru, 2019). SADC education institutions have, therefore, the obligation to strategise on how to increase funding for research projects through government support, private partnerships and international grants.

Collaboration and Partnerships

SADC higher education institutions need to establish strong and strategic collaboration with communities, industries and regional and global institutions for effective transformation to foster research and innovation (Ankrah & AL-Tabbaa, 2015). The involvement of local communities in research projects ensures relevance and applicability of innovations. Institutions should strive to encourage citizen science and grassroots innovation.

Effective transformation requires strong and sustainable industry-academia collaboration at nation levels. Forging partnerships with industries aligns research with market needs, and allows for the design of effective and appropriate internship programmes for students and faculty. It also enables joint research projects and the establishment of innovation hubs, and the commercialisation of research outputs and innovation prototypes.

Moreover, regional and global networks through enhancement of collaboration within the SADC region and with international institutions is indispensable. Such networks facilitate participation of education institutions in global research initiatives and networks to share knowledge and resources.

Policy and Governance

Embarking on a journey of transformation needs to be supported through the establishment of conducive policy frameworks, organisational structures and monitoring and evaluation mechanisms. First and foremost, education institutions need to review their organisational structures to ensure that research and innovation are explicitly visible and given the attention they deserve. This will give impetus to the transformation of these institutions, fostering research and innovation. Secondly, strategic planning should include research and innovation among priority strategic objectives, with clearly defined key performance indicators. The implementation of research and innovation objectives must be well captured during annual implementation planning, and adequate funds should be allocated

during the budgeting process. Finally, transformation demands the introduction of regular monitoring and evaluation mechanisms for research and innovation programmes to ensure they meet objectives and drive continuous improvement. Therefore, monitoring the implementation of these initiatives should be done appropriately through decision-making organs including senates and university boards or councils.

It is, therefore, imperative that education institutions strengthen policy frameworks by developing and implementing policies that support research and innovation, including intellectual property rights, research ethics, institutional research agendas and commercialisation of research findings.

Furthermore, SADC member states should support education institutions by creating or strengthening national and regional research councils (for example, the Commission for Science and Technology — COSTECH in Tanzania) to oversee and coordinate research activities, set priorities and allocate adequate resources for research and innovation.

Case Studies and Success Stories

The United Republic of Tanzania (URT) has embarked on transforming the entire education sector. The transformation involves a number of strategic actions including revision of the Education and Training Policy 2014 (2023 Edition) (United Republic of Tanzania [URT], 2023), thorough revision of curricula, improving institutional organisational structures, massively investing in infrastructure development through various flagship projects, just to mention a few. These interventions are briefly narrated as case studies in the context of the topic under discussion.

Policy and Governance

In recent years, higher learning institutions in Tanzania, including Mbeya University of Science and Technology, endeavoured to transform their organisational structures. The main purpose of the transformation was to enhance effectiveness and efficiency in fulfilling core functions and mandates: academics, research, consultancy and innovation.

Cognisant of the need to foster research and innovation, Mbeya University of Science and Technology established the Centre for Innovation and Technology Transfer which is headed by a Director under the Deputy Vice Chancellor — Academic, Research and Consultancy. The Centre further reports the implementation of its strategic objectives and functions to Senate through the Postgraduate, Research and Publications Committee.

Moreover, to support its operations, the Centre has developed several instruments, including the Innovation and Technology Transfer Policy, Guidelines for Intellectual Property Protection, Guidelines for Incubation of Innovation,

Entrepreneurship and Technology, and Guidelines for Innovation and Technology Transfer. Through these initiatives, notable achievements are evident and the future is promising.

Infrastructure and Resources

Tanzanian higher learning institutions are currently implementing a five-year Higher Education for Economic Transformation (HEET) project. This is a flagship project initiated by the Government in order to facilitate and support the envisioned transformation of higher learning. The project development objective is to increase student enrolment and improve the quality and labour-market relevance of degree programmes in the priority disciplines while improving the governance and management of the higher education system.

At Mbeya University of Science and Technology, a significant percentage of project funds is dedicated to constructing state-of-the-art infrastructure with the aim of expanding enrolment capacity while enhancing the quality of teaching and learning as well as research and innovation. Specifically, the infrastructure development includes an academic block comprising lecture theatres and seminar rooms, laboratories and studios as well as conference facilities.

Moreover, workshops with state-of-the art equipment are being constructed to facilitate the imparting of skills and competences needed by the labour market to students. Furthermore, as part of project implementation, the Mbeya University constructed an innovation and technology transfer centre which provides a conducive environment for innovation and commercialisation of research findings.

Curriculum and Pedagogy

The URT Government has endeavoured to review syllabi and curricula at all levels as a strategy to implement the Education and Training Policy 2014 (2023 Version). The Policy emphasises the urgent need to prepare the workforce with requisite knowledge and skills needed in the labour market. In response, Mbeya University has embarked on a revision of undergraduate and graduate curricula. The main focus of the revision is to enrich the curricula such that the training offered produces a skilled workforce to match the technology needs of the labour market. The curricula review will incorporate cross-cutting issues and entrepreneurship courses that are meant to inculcate an attitude of innovation and problem-solving in the students.

The curricula review process involved all key stakeholders including the URT Government, industrial and business communities, alumni and students through a comprehensive trace study and market demand survey.

Collaboration and Partnerships

Mbeya University of Science and Technology has established the Internationalisation and Convocation Unit under the Office of the Vice Chancellor to oversee and coordinate all collaboration and partnership activities. The Unit's

inclusion in the University's organisational structure has been instrumental to the achievements attained by the Unit in its short lifespan. The achievements include the establishment of the Industrial Advisory Committee (IAC) comprising practising professionals holding key positions in industry and other professional bodies. The IAC has been very supportive in advising the University in various instances including during curricula review. Moreover, the IAC has provided the University with opportunities to establish strategic collaborations with industries. Through such linkages, students have been able to secure industrial practical training placements and internships. Moreover, academic staff have benefited from the collaborations through short-term industrial placements for practical training.

Conclusion

Accelerating the transformation of SADC higher education institutions for research and innovation involves modernising curricula, investing in infrastructure, fostering collaboration and strengthening policy frameworks. These interventions demand deliberate and collective effort from all stakeholders including policymakers, educational leaders, industry partners and researchers to drive this transformation. Moreover, SADC member states should be open to learn from one another and benchmark the best practices for effective transformation of higher education institutions. Even more important and worth emphasising is the need for collaboration among member states, and for sharing available resources for a prosperous future for the SADC region.

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