

Quality Higher Education for Sustainable Development: The Transition towards Achieving Agenda 2030 Global Goals

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Abstract: Quality Higher Education and Education for Sustainable Development (ESD) have become part of the discourse and issue in higher education contexts. Every phase or debate of higher education is now being urged to declare its support for ESD. Recently the United Nations (UN) 2030 Agenda proposed that quality education and ESD should play a vital role for the transformation of the world's economy as expressed in the Agenda's goals and sub goals. The UN Incheon Declaration 2015 highlighted the vital role of education that it plays in the universal journey towards sustainable development across the globe and saving our planet. Higher education should play a pivotal role in the transition towards achieving quality in the entire education system. The UN formally adopted the 17 sustainable development goals (SDGs) as an outcome of a major global consultative process. Agenda 2030 advocates for providing the opportunity to progress towards the transition to implement quality education and ESD that fosters the knowledge, skills, values, perspectives and actions that lead towards a more sustainable future. The study examines the implementation of Agenda 2030 Global Goal on quality and sustainability in Zimbabwean higher education. The aim of the study is to increase knowledge of potential strategies to meet the fourth UN Sustainable Development Goal (SDG4), which strives for quality education. Institutions in the study were at different levels of interpretation, understanding and implementation of Agenda 2030 for Sustainable Development Goals. The majority of the participants did not have an all-inclusive knowledge and comprehension of ESD mainstreaming as a holistic approach. That is, an all-embracing ESD integration as a curriculum systemic concept that holds both curriculum and institutional change, to contribute to the overall re-orientation of education towards sustainability. The qualitative study provides a detailed description on the challenges of implementing quality and sustainability in higher education.

Keywords: Education for sustainable development, higher education, quality education, mainstreaming, sustainable development goals.

Introduction

Quality in Higher Education can be influenced by interrelated elements inform of Content, Methods, Curriculum, Policy, Community and Institution. However, quality is a complex, multi-dimensional issue and its meaning is often difficult to articulate. Quality is defined in terms of: 'value for money', 'fitness for purpose', 'zero defects', 'consistency', 'transformative process' (Nair, Webster and Mertova, 2010). Derived from these definitions, the vision of Education for Sustainable Development (ESD) is a world where everyone has the opportunity to benefit from quality education and learn the values, behaviours and lifestyles required for a sustainable future and for positive societal transformation (Milutinovic, 2013). Furthermore, quality is considered in relation to a variety of stakeholders with an interest in higher education and each of these stakeholders may potentially perceive quality differently (Nair, Webster and Mertova, 2010). The study views quality enhancement as directly concerned with adding value, improving competencies and implementing transformational change. Therefore, the study analysed how educators in selected Zimbabwean Higher Education institutions were empowered to become leaders for sustainable development to provide quality education. That is, the interpretation of Agenda 2030 for Sustainable Development Goals by the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHTEISTD) and participating institutions. This empowerment can be demonstrated through capacity building and professional development training programs that focus on inter- and trans-disciplinary approaches of sustainable development education and research (Mader, Scott and Razak, 2013). The study also explored the complexity of integrating ESD to achieve transformative change towards achieving Global Agenda 2030 in universities and colleges in the country. Current practices were benchmarked and challenges affecting the institutionalisation of ESD within the institutions were analysed and profiled. The focus was on transition towards quality higher education. Recommendations are proffered that will inform policy makers in developing alternative policy options and strategies to strengthen the process and delivery mechanisms of ESD. The main question that guided the paper was: How are higher education institutions embracing both curriculum and institutional change, to contribute to the overall re-orientation of tertiary education towards sustainability and Agenda 2030 Goals in Zimbabwe?

Theoretical Framework

The theoretical framework of ESD Integration guided this study. ESD Integration is an all-embracing systemic concept and objective (Hopkins and McKeown, 2002). The view point of ESD Integration and specifically mainstreaming ESD, resonates with thoughts by Hopkins and Mckeown (2005), who identified the need for a more holistic approach to integrating ESD into the curriculum during the United Nations Decade of Education for Sustainable Development (DESD) of 2005-2014 (Miura, 2018). In other words, they suggest a holistic approach that would embrace both curriculum and institutional change, to contribute to the overall re-orientation of education towards sustainability. This is contrary to an approach that tends to focus on the areas of knowledge, methods and curriculum change, usually manifesting itself either as the addition of a new ESD subject and/or the development of ESD as a cross-cutting curriculum topic. This observation is supported by an Australian Research Institute in Education for Sustainability (ARIES) study on mainstreaming ESD in pre-service teacher training which argued that, Education for Sustainability needs to be mainstreamed within pre-service teacher education and not just added on through the teaching of single units or marginalised content (Steele, 2010). In this respect, mainstreaming is defined by the ARIES as, the inclusion of the content and practice of a particular idea (such as learning for sustainability) within an organisation, institution or system (such as pre-service teacher education) to such an extent that it becomes embedded within its policies and activities (Miura, 2018; Ferreira, Ryan, and Tilbury, 2006). More so, Miura (2018) views mainstreaming as a more focused activity within the specific areas of the curriculum and the institution (e.g. curriculum mainstreaming and institutional mainstreaming). However, earlier attempts at integrating ESD in educational institutions at all levels have only been through curriculum mainstreaming.

The ESD Integration Framework recognises that at the core of any attempt at ESD integration is the basic understanding of ESD as a holistic and integrated vision of education that draws on the evolving concept of sustainable development. It acknowledges the interrelatedness of the social, economic and environmental dimensions. It also recognises that these three dimensions are embedded in culture and are influenced by the prevailing political context. These contextual realities are further informed and advanced by multi-disciplinary or cross-disciplinary thinking which recognises that sustainability is by nature holistic and interconnected. It is important to note that, the ESD Integration Framework may be influenced by the following six interrelated elements that surround it: Content, Methods, Curriculum, Policy, Community and Institution. More recently, there has been recognition that successful integration requires institutionalisation, or institutional mainstreaming. This is further informed by relevant policy frameworks and contextual realities (Miura, 2018). Examples of current curriculum mainstreaming practices include;

- Creating a standalone ESD-specific subject;
- Embedding ESD in existing subjects or across the curriculum;
- Adopting a thematic issue or problem-based approach like climate change, air pollution, deforestation (etc.), based on the local realities;
- Incorporating the use of teaching and learning methodologies consistent with ESD principles of learner-centered and participatory approaches, such as field trips;
- Conducting ESD-based co-curricular or extra-curricular activities, such as the use of student clubs and associations and activities;
- Engaging with the local community, often through project-based learning opportunities.

Miura (2018) gives these examples as an illustration of how these practices are possible entry points, or building blocks, for the holistic curriculum and whole-institution integration that ESD aims to achieve. Other examples of successful ESD integration that are better described as institutional mainstreaming, in which a whole-of-institution approach to ESD has been taken, include Eco-Schools and Green Schools. These involve the development of institution-level policies and the engagement of the local community. It is important to understand the difference in orientation toward the ‘education about sustainable development’, or ‘education for sustainable development’. The difference is not only linguistic: education for sustainable development underlines the promotion of values and behaviours in line with sustainable development principles. On the other hand, education about sustainable development means teaching and learning about the concept itself, politics, policies and sustainable development theories, including the parallels with similar concepts and theories (Milutinovic, 2013).

Literature Review: The 2030 Agenda and its SDGs

The Millennium Development Goals (MDGs), the predecessor of the Sustainable Development Goals (SDGs), have been widely criticised for overlooking higher education as an important factor in the development process (Teferra, 2020).

The 2030 Agenda for Sustainable Development, adopted in September 2015 by all nations (of the United Nations) is a powerful universal framework for action to end extreme poverty, fight inequality, foster peace and justice, and protect our planet. The agenda ushered in a new vision centered around three dimensions of sustainable development: economic, social and environmental. These three aspects were cited as the three pillars of sustainable development. However, UNESCO identifies four intertwined dimensions to sustainable development including culture. The Agenda emphasises the roles of stakeholders in solving our common and globally interrelated challenges. The 2030 Agenda explicitly calls on all to apply their creativity and innovation to solving sustainable development challenges and meet societies’ most pressing problems. It also seeks to strengthen the science–policy interface as an evidence based instrument to support policy makers in the implementation of the 2030 Agenda and its SDGs. More clearly, sustainability is a paradigm for thinking about the future in which environmental, societal and economic considerations are balanced in the pursuit of an improved quality of life (Carpentier & Braun, 2020; Singh, 2019 and Miura, 2018)

As stipulated in the agenda, sustainable development recognises that eradicating poverty in all its forms and dimensions, combating inequality within and among countries, preserving the planet, creating sustained, inclusive and sustainable economic growth and fostering social inclusion are linked to each other and are interdependent (Singh, 2019). In this regard, Carpentier & Braun, (2020) observe that, unlike the Millennium Development Goals, SDGs address the root causes of poverty, inequality, environmental degradation, and conflicts by addressing economic, social and environmental issues in an integrated way. The 2030 Sustainable Development Agenda lays down seventeen Sustainable Development Goals (SDGs). Therefore, the ultimate goal of sustainable development is to improve the quality of life for all members of a community, all citizens of every nation and the world while ensuring the integrity of the life support systems upon which all life, human and non-human, depends. The special conceptual contribution of sustainable development is that it represents the balanced integration of social and environmental objectives with economic development. The World Commission on Environment and Development (WCED) argued for an approach to development that would take into account the relationship between ecological, economic, social and technological issues, defining it as: ‘...development that meets the needs of the present without compromising the ability of future generations to meet their own needs’. On the same note, Hopkins and McKeown, (2002) and Miura, (2018) posit that, ESD is both a vision and a process for learning about our interconnected world. As a process, it motivates us to identify and act in ways that contribute towards achieving our own vision of a more sustainable future. To achieve this, ESD requires that we act on three interrelated priority areas that is to: improve basic education; reorient education to address sustainability and increase public awareness and the understanding of sustainability. These priority areas are critical for this study. The concept of sustainable development has been gaining a well-

deserved recognition over the past decades, proving to be the path to adopt when aiming toward a genuine social and economic development.

Carpentier & Braun, (2020) observe that, achieving the ambitious 2030 Agenda for Sustainable Development requires new innovative approaches that are socially inclusive and environmentally benign. Similarly, Singh (2019) notes that the implementation of the SDG4, guided by the international framework for the right to education in terms of entitlement as well as empowerment, is beset with many limitations and constraints. To begin with, when analysing the 17 goals and 169 targets of the SDGs, it is striking to note that the words “higher” and “tertiary” education, and “university” appear just once each. The only goal in which higher education is explicitly mentioned is Goal 4, which stipulates inclusive and equitable education and lifelong learning opportunities (Teferra, 2020). In addition groups with documented disadvantages largely remain excluded. It can be noted that globally, youth are three times more likely to be unemployed than adults, while rural and urban differentials are also evident in such areas as education, health care, and access to digital connectivity. Further, people with disabilities and those living with HIV/AIDS continue to face multiple disadvantages, denying them both life opportunities and fundamental human rights. Gender inequalities persist as women occupy only about a quarter of managerial positions in the world and face a gender pay gap of 12 percent (Carpentier & Braun, 2020). There are also serious oversights in terms of particular issues related to higher education. The document for example speaks only of ensuring equal access, not about expanding access or strengthening the sector. Despite higher education’s critical role in meeting all of the goals, the lack of active and seasoned lobbyists for higher education during the process leading to the SDGs is starkly evident in the virtual absence of higher education from this grand scheme (Teferra, 2020).

The Global Sustainable Development Report 2019 comes to similar conclusions and identifies four cross-cutting levers that is: Governance, Economy and Finance, Individual and Collective Actions, and Science and Technology. However, the deteriorating global landscape, including deteriorating support for international trade, multilateral and scientific collaboration, and global solidarity constrains the efforts of governments and other stakeholders. It is also important to note that, the shift in development pathways and level of financing and investment is not happening at the speed or scale required. Therefore countries are duty-bound to ensure that education fulfils essential objectives as laid down in the Universal Declaration of Human Rights and in international human rights conventions. Entitlement and empowerment, two dimensions of the right to education, are inextricably linked together (Singh, 2019). Milutinovic, (2013) notes that, allegiance and discipline are often the impediment for changes, innovations and the creation of new social democracy. Thus educational reform needs to give precedence on the creativity, critical thinking, personal choices through elective contents and interdisciplinarity. Moreover, the reform should introduce learning-by-doing and lifelong learning principles as an important precondition for better adjustment to job market.

That being the case, Carpentier & Braun, (2020) report that achieving the SDGs by 2030 is feasible, as highlighted by the 2018 Stockholm Resilience Center Report 4 “Transition is Feasible: How to Achieve the SDGs within Planetary Boundaries,” but requires five transformational strategies that is : transition to renewable energy, doubling productivity of sustainable food chains, new development models, reduced inequality gap, and quality education and health care for all, underpinned by gender equality. The study mainly focuses on Education as the foundation of development and that all sustainable development goals (SDGs) have educational dimensions.

Quality Higher Education

Education is at the heart of creating a more sustainable future. The right to education is a matter of empowerment in imparting knowledge, values, competencies and skills, with a holistic approach to quality education (Singh, 2019). The introduction of sustainable development education in higher education arena is closely related with the predominant understanding of higher education role within the society: is it the primary role of University to develop individual skills and integrative knowledge of students, required for their better position on the job market or to contribute creating a democratic and ecologically just world (Milutinovic, 2013). A just and peaceful society cannot be attained without everyone learning to live together sustainably. By empowering all of us to change the way we think and act, ESD aims to transform society towards peace and sustainability through reorienting education and learning. Education for sustainable development enriches the objective of education: to impart knowledge, values, attitudes, skills and competencies. The SDG4 expresses the resolve of governments to ensure that good quality education is available to all without exclusion (Miura, 2018 and Singh, 2019). Mader, Scott, Razak, (2013) reported that in a global study on Higher Education for Sustainable Development respondents thought that institutional and educational quality management is most influential in striving for institutional transformation towards sustainable development. Thus, it is among higher education’s responsibility to build competences for sustainable development among students as well as among university educators to empower them to become leaders for sustainable development. Enabling leadership for

sustainability. Universities are not only the place where professionals are to be trained; many scholars argue about their more important role and responsibility for sustainability by virtue of its influence on societies (Milutinovic, 2013). In this regard, the role of the teacher is crucial in fostering citizens who make informed and conscious decisions for a sustainable future. Teachers can act as key change agents in transforming education and society. By integrating ESD in higher education, learning methods and content can be reoriented towards sustainability. It is in this context that building the capacities of teachers and educators has been identified as a priority action area by the Global Action Programme (GAP) on ESD, which provides the international framework for accelerating and scaling up ESD actions in countries around the world.

Miura, (2018) is of the view that, Integrating Education for Sustainable Development (ESD) in teacher education is both an opportunity and a challenge. Teachers can play a vital role in transforming society towards sustainability, and if they are to play this role effectively, the integration of ESD in teacher education is one of the most essential requirements. On the same note, international as well as institutional stakeholders are demanded to rethink HEI and support policies that foster a substantial change in higher education for sustainable development. HEIs from around the world have been elaborating and implementing different methods to integrate sustainability into their education, research operations, and in- and outreach activities. HEIs have just started to implement sustainability into their education, research and operations programs. However, many of these activities are limited to “greening campus” initiatives, or the integration of sustainability related topics into existing curricula or research. But transforming HEI and society requires a whole institution approach that brings sustainable development into the mainstream of education, research and operations.

In fact, there is evidence to suggest that higher education does not fully understand the true nature of the challenge and that sustainable development is still considered as an innovative idea in most universities and has not yet permeated all disciplines, scholars, and university leaders (Milutinovic, 2013). This mainstreaming is only achieved, when the idea of sustainability is accepted and integrated into a university’s culture and its day-to-day operations (Mader and Rammel, 2015). There is a big gap between what is told in national or regional strategies and what is done to empower people to act accordingly (Mader, Scott and Razak, 2013). There is evidence that this absence is already having an effect on funding decisions on the ground. The minister of science and higher education of Ethiopia, for example, noted recently that, while support to other sectors of the education system is growing, the sector under her portfolio is still considered a luxury by most and garners only marginal support (Teferra, 2020).

Therefore, to achieve the SDGs by 2030, we must dramatically step up the pace and breadth of implementation and truly embrace the principles of inclusion and sustainability, including sustainable finance (Singh, 2019). HEIs and higher education policy needs to take action to change not only single curricula, research programs or waste systems within institutions but enable a whole of institution and system-wide transformation in collaboration with practice (Mader, Scott and Razak, 2013). For example, the Republic of Serbia Strategy of Education Development to 2020 treats education in close connection with other sectors and the changes cover all education levels from preschool to lifelong learning, with a strong emphasis on higher education. It is of crucial importance to embed the principles of ESD into the existing participation planning process and drafts produced (Milutinovic, 2013).

The Role of ICT in ESD and Quality Higher Education

Bello and Johnson (2011) discuss that ICT plays a major role in managing education for sustainable development by allowing countries to leapfrog stages of economic growth by being able to modernise their education systems by adapting to new technological systems. ICT refers to technologies that enable the handling of information and facilitate different forms of communication between human and electronic systems, hence proper adaptation of these new technologies will result in quality education. Choudhary (2020) argues that ICT enables quality by providing a platform for conducting an online exam, paying online fees, accessing online books and journals which subsequently improves the teaching-learning process. They continue to explain that ICT bridges the gap thousands of learners who cannot benefit from higher education due to several controls, such as cost, time and geographical location. ICT is considered as a mainstream in higher education. ICTs are being used in many areas such as: developing course materials; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support and student enrolment (Mandal & Mete, 2012).

According to Martín-Garin, et al (2021) ESD requires the use of different pedagogical approaches. Some of these approaches include such as problem-based learning (PBL), research-based learning (RBL), and environmental tools, such as the life cycle assessment (LCA) and computational thinking (CT). They explain that NEST, a computer plugin for 3D Modeling is an example of how a computer bases software can integrate

and bring in all the approaches together. All the tools are characterised by the fact that, in one way or another, they work on competencies in relation to the SDGs, which were adopted by the United Nations in 2015.

According to UNESCO (2013) an initiative called GENIE was launched in Morocco which had the intention of improving teaching quality through the appropriate use of ICT pedagogical tools. This was a boost for improving quality education in Moroccan schools. Contrary to this, Moodly and Adu (2014) concluded in a study that technological advancement does not necessarily mean that there will be an improvement in teaching and learning standards. But rather the focus has to be on technology that adds value to the education experience, and institutions need to guard strongly against administrative processes and procedures that threaten to overwhelm and detract from the value of teaching and learning.

Methodology

This study followed the Qualitative Constructivist-Interpretive Paradigm as the proponents argue that the core of understanding is learning what people make of the world around them, how people interpret what they encounter, and how they assign meanings and values to events or objects. The design is also idiographic as it is committed to understanding how particular experiential phenomena have been understood from the perspective of particular people, in a particular context. In this case the vision of Education for Sustainable Development. In-depth interviews and document analysis techniques were employed. Relevant and official data for this study was collected and collated from existing literature on Agenda 2030 Global Goals. For comparative analysis of their response to SDGs, the researchers purposively sampled 5 Participants from each of the following institutions; National University of Science and Technology, Great Zimbabwe University, J. M. N. Polytechnic and Masvingo Polytechnic. As a consequence, the paradigm utilises small, purposively-selected and carefully-situated samples, and may often make very effective use of single case analyses (Smith, Flowers and Larki, 2009).

Ethical Issues

Clearance and consent were sought from NUST and participating institutions and individuals. Participants were accorded rights for informed consent, confidentiality and protection from harm.

Findings and Data Analysis

Participants' interpretation of Agenda 2030 for Sustainable Development

The study sought to find out how participants understood Agenda 2030 for Sustainable Development. Most participants had an idea of what the phenomenon is all about and what it entails. They could explain or describe one or two sustainable development goals that interested them. Economy, education, development, gender and environment aspects were recognised. However the results did not reflect a comprehensive understanding of Agenda 2030 for Sustainable Development. In summary, participants defined Agenda 2030 for Sustainable Development as;

- Development of the economy and improvement of the environment.
- An expression of intent with regards to improvement of living standards.
- By 2030 the world should have achieved the goals of sustainable Development.
- A way of promoting the achievement of a set goals, set to make the world a better place to live.
- National vision of presenting a middle income economy; *education should not be for its own sake. Tertiary education should spearhead man power development.*
- UN targets for national level development; *a set of targets for people to live in harmony with the environment and everybody should be taken on board. A noble cause to take care of the earth so as not to undermine the future. Past, present and future generations to enjoy better life.*
- *Means to do things on our own and not harm others. Donor syndrome should go, there is need for own funding.*
- Issues to do with gender; *the government has a mandate to promote gender equity for the professional & non-professionals, so as to capacitate women by 2030. There should be gender balance projects that can be done for the country to survive. It's a balance between male and female student enrollment.*

Information sources on Agenda 2030 for Sustainable Development

As a follow-up to the question on interpretation and to establish if the source of information dissemination on SDGs was systematic from MHTEISTD to all the institutions and faculties/departments in the study. In this regard participants identified various sources of information on Agenda 2030 for Sustainable Development. The findings point to various formal and informal sources. There was however little deliberate

effort by institutions to disseminate information and orient staff towards education for sustainable development. The responses were as follows;

- Workshops,
- Research conferences,
- Newspaper articles, Radio and TV programmes such as ZBC TV News,
- Personal studies; *'I did a BA with a topic on sustainability'*,
- College policy,
- President's addresses,
- *First time to hear about the concept.*

Promotion of SDG achievement by HEIs

Mader and Rammel, (2015) argue that, mainstreaming is only achieved, when the idea of sustainability is accepted and integrated into a university's culture and its day to day operations. Furthermore, Education for sustainable development underlines the promotion of values and behaviours in line with sustainable development principles (Milutinovic, 2013). In this regard, the study sought to establish how institutions were promoting the achievement of SDGs with respect to institution's own sustainable development policies, strategies, seminars, conferences, plans, programmes and campaigns to raise awareness and catalyse action among local governments, civil society, businesses, academia, media etc. This would be a holistic approach that embrace both curriculum and institutional change, to contribute to the overall re-orientation of education towards sustainability, than to focus on the development of ESD as a cross-cutting curriculum topic (Steele, 2010). Indications were that institutions already had running policies and programmes that may relate to Agenda 2030 for Sustainable Development but not necessarily as a result of. For example; apprenticeship, environmental and AIDS programmes, recruitment policies etc. A reflection of education about sustainable development than education for sustainable development. Though other campaigns were mentioned the most prevalent one was on gender balance. However, some institutions indicated that they had; partnerships with non-governmental organisations like Swedish International Centre of Education for Sustainable Development (SWEDESD) etc, drafted tailor-made regulations, course outlines or implementation was at its initial stages. Others indicated that there were no direct or specific programmes as initiated by UNESCO. Some respondents were as follows;

- *The institution is offering hands on courses.*
- *We are encouraging innovation through design projects e.g. automotive engineering.*
- *There is a department that spear heads environmental programmes.*
- *We are actively involved in the Sustainability Starts with Teachers a capacity building programme for Teacher Educators on ESD which is implemented in partnership between the UNESCO Regional Office for Southern Africa, Rhodes University, the Southern African Regional Universities Association (SARUA) and the Swedish International Centre of Education for Sustainable Development (SWEDESD). The programme is a regional programme that falls within UNESCO's Education for Sustainable Development: Towards achieving the SDGs or ESD for 2030.*
- *AIDS day campaigns and AIDS programmes are running.*
- *The college encourages prospective female students to apply. Not discrimination against people who are HIV positive.*
- *Recruitment policy e.g. prospective female students are encouraged to apply in Engineering Department, student selection has a quarter system for gender balance. Online enrolment and participation by female students at national programmes such as ZITIF, TIFAZ etc. Institution conscientise its members on gender issues through initiatives such as SAYWHAT, a donor funded programmes on sexual reproductive health.*
- *Affirmative action in enrolment in STEM subjects. Encouraging people living with disability to apply at the institution for tuition.*
- *Making our lecture rooms inclusive (have ramps) and toilets also cater for disabled people, doing sensitisation programs and workshops, etc Use of gender neutral terms; chairperson, head, etc. Having structures to cater for SD issues especially sexual harassment.*
- *Gender policies e.g. crafted a sexual harassment policy, promotion of gender balance during interviews.*
- *Taking part in Gender based violence awareness campaigns, Girl-child empowerment programs, and female student quota system in the SRC.*

- *Manpower Development Act Dean of Education has clubs especially for the girl child. Prizes from former MHTEISTD minister for best female students.*
- *Students are learning about water conservation in the community e.g. at Tokwe Mukosi lake.*
- *Traditional Apprenticeship Programme (TAP), was designed for people without 5 O levels do short courses.*
- *We participate in clean-up days, we have bins around campus, town cleaning and community involvement.*
- *We have activities like teaching of Agriculture so as to link with community. National Agriculture for dry Areas like Chivi district to sustain communities.*
- *We have only recognised the Environmental day. Planting lawns and shrubs and trees; cleaning campaigns, earth day, Tree Planting day.*
- *Doing some sustainable development projects such as recycling waste, water harvesting.*
- *Horticulture department budding trees for the community, students attached to various communities including farms and schools.*
- *Greening the institution project, Paper recycling by making teaching media*
- *Having departmental meetings discussing the issues of SDGs, Encouraging students to improvise teaching materials.*
- *Mainstreaming some aspects of ESD in our different subject areas.*

Promotion of Creativity, Expertise, Technology and Financial Resources

Milutinovic, (2013) delineates education for sustainable development as a means of knowledge transfer and values creation; education for sustainable development as a means of human capacity development and the development of personal abilities to choose the sustainable alternative. How institutions in the study were promoting creativity, expertise, technology and financial resources to achieve transformative change and solve sustainable development challenges was sought. Transformative change, involves changing norms and institutions, both formal and informal that shape the behaviour of people and organisations in the social, economic, environmental and political spheres (UNRISD, 2016). The findings reflect a wide array of activities that may address these critical needs. For example, the introduction of technopreneurship (entrepreneurship skills), establishment of partnerships with public, community and non-governmental organisations among others. However, most of the activities relate to the university and polytechnic initial mandate. Some participants responded as follows:

- *We have introduced a 3 facet, Post Graduate Diploma in Higher & Tertiary Education. Professors, doctors etc. are also undertaking that programme.*
- *We have partnered UNESCO, UNICEF to capacitate teachers with an in-service programme. We are reviewing programmes to meet 21st skills.*
- *We are working with MoPSE in the Competence Based Curriculum for the right trajectory. Creativity is on change of curriculum from theory to practical hands on skills. Community involvement is seen through market creation.*
- *On creativity students are being equipped with critical skills so that they don't think in silos. Creativity for lecturers and students is witnessed through community start-ups. Skills identification are also coming from communities indigenous knowledge.*
- *The institution is studying community technologies, for example drying of grain. However, indigenous systems have limitations and challenges. There is need for resources. Technology is not working in some situations, people are going back to indigenous knowledge. To get the best, there is need for a hybrid of technology and indigenous knowledge.*
- *Still on technology, students are being exposed to community development through research.*
- *An Entrepreneurship module was introduced to promote self-employment and to improve financial base for students and community.*
- *Polytechnic is practical oriented to create employment. Former students have companies that take current students on attachment.*
- *Polytechnic means offering different technical courses, commerce, engineering and applied science.*

Balancing Social, Economic and Environmental Sustainability

Institutions were probed on how they have balanced the social, economic and environmental sustainability since the 17 SDGs were integrated. The student element remains key and should be visible in this

endeavour. Singh, (2019) notes that, the most abundant and purpose-driven resources we have, the minds and skills of our college and university students. The findings also shows that institution-community engagement on different projects is very popular, for example; community related clinics, constructions, etc. The following were some of the their responses to address this question;

- *We have a community law clinic, healthy clinic and an education clinic is on its way for schools e.g. school heads are not trained on promotion. Proposal to use environmental resources to promote the 3 clinics above for local market. Community engagement is key for education 5.0, taking university to the people. The institution has won Grants for permaculture to work and capacitate primary and secondary schools. However, we are sensitising the community through education and teaching students entrepreneurship.*
- *We are working with the community e.g. Amarula processing plant in Rutenga Mwenziwas funded by MHTEISTD. The community comes to acquire skills, the college was involved in its construction and the complex was built by students. There are plans to assist GZU build their Mashava campus, students will be involved in the construction, and currently they are working on the plans.*
- *College provide weekend school for the Traditional Apprenticeship Programme, the college follows up on attachment. These people are running Mucheke industry promoting entrepreneurship.*
- *We have introduced a component on Intellectual Property in an effort to promote ideas, patent ideas, projects are underway e.g. ZITF 2021, Community related courses such as BIO-NANOTEC working with private companies. German cooperation offering training. Weekend training staff development, community involvement City Council research partnership. TIP with community people without O levels. MESAC student competitions from department to national level sponsored by MHTEISTD.*
- *Main streaming ESD, establishment of production units in the college, Production of teaching media using recycled materials, etc.*
- *Empowering our students through lessons on sustainability.*
- *Inclusive education programs.*

Challenges of Mainstreaming Sustainable Development

Achieving the ambitious 2030 Agenda for Sustainable Development requires new innovative approaches that are socially inclusive and environmentally benign (Carpentier & Braun, 2020). This comes on the backdrop that, after decades of neglect by international organisations and domestic governments alike, the higher education sector across Africa has struggled to regain its footing, and the lack of attention to the sector within this international campaign further exacerbated the damage (Teferra, 2020). Challenges faced by institutions in mainstreaming sustainable development were noted as the implementation of the SDG4 is plagued with many limitations and constraints (Singh (2019). More so, sustainable development is still considered as an innovative idea in most universities and has not yet permeated all disciplines, scholars, and university leaders (Milutinovic, 2013). In summary participants noted limited financial resources, lack of knowledge, low motivation, invisibility of SDG matters and attitudes as major challenges. Some of the responses included;

- *Limited space, very high teaching load, part time lecturers taking up to four modules.*
- *The curriculum is overcrowded and there is shortage of staff so this means this is coming as a burden.*
- *Sustainable Development issues not being very visible, not vivid on the roles of lecturers, teachers and are considered as secondary or club activities.*
- *Motivation absences, there is need for incentives.*
- *There is little time allocated for the SD activities and also this is coming as an extra load to already overloaded staff. Therefore tends to be a negative attitude towards activities and programs for ESD.*
- *Change is difficult to accept especially when it involves western technology to back local activities. Turning people around is difficult, it's a challenge.*
- *People are not respecting their own knowledge.*
- *Main challenge is generally the understanding of SDGs (people are less knowledgeable) and how they can be integrated into the curriculum. Lack of knowledge among staff members is an impediment.*
- *There is need for an enabling environment to facilitate migration in that direction, in terms of commitment, put in place laws to back up policies.*

- *Attitude towards environment needs training. Attitude of staff members towards SD programs.*
- *People are negative about their country.*
- *Financial problems. Financial constraints on machinery. Challenge of resources.*
- *Lack of funding, more so institutions not prepared to fund themselves.*
- *Financial resource is a challenge institution relies on fees. No resources to implement.*
- *Too much unemployment.*

As an expansion to the question on challenges, participants were asked to identify the causes of the challenges. This will help to reorient education to address sustainability and the understanding of sustainability. The following came out;

- Institutions were not proactive in development of SDG programs.
- Companies were not very supportive.
- Industry business scaling down, companies were closing shop, students were failing to get attachment. Attachment at college was not effective for example; *engineering students should be able to solve problems.*
- Fear of technology and change.
- Conversional programmes were underfunded in terms of training equipment as a result there were no modern equipment in the departments.
- Negative politics.
- Student enrollment had increased but there was no adequate equipment. A quarter of machines were functional, institutions could not afford to buy new equipment.
- Purchase or service of equipment required forex (US) not RTGS.
- TAP programme was funded by German, there was strict follow up when it started. The college took over with the same standards. However, the challenge was on tooling of graduates after training. German used to provide equipment.

Strategies for Mainstreaming SDGs

To achieve the SDGs by 2030, there is need to intensely step up the pace and breadth of implementation and truthfully embrace the principles of inclusion and sustainability, (Singh, 2019). Universities, colleges, and other higher education institutions (HEIs) are one of the most significant incubators of ideas and solutions to global problems, and their central position amongst networks of government, civil society and industry partners meaning that they have vast potential to generate positive impact (UNESCO, 2020). Participants proposed strategies for the institutions to mainstream SDGs. The responses included; partnerships, capacitation of communities, commitment, Government involvement, sensitisation programs etc.

- The need for partnerships with international community, emic of evidence to chart the way forward and to pay attention to the specific conditions.
- Communities need capacitation to be self-sustained. *The problem goes back to the colonial era. Therefore community engagement/capacitation is important. Funds should go to the communities for; education and to gather internal/indigenous data. Since people do not know much about community activities. There is therefore a need for research the university and capacity build researchers. There is need for specific knowledge.*
- UN should not regard Zimbabwe as poor but as developing at its own pace.
- Capacity building support for the people is needed to tap their knowledge, give them resources to deal with hunger and health because they are disadvantaged. *There is need to distribute resources e.g. COVID vaccines.* Higher education should distribute to the communities. Institutions are not networking enough on environment issues and competition should stop so that they work together when there is a grant. Furthermore, institutions should collaborate and continue working even when donor funding stops.
- Education is key: there should be interaction with communities, for a buy in, people in the know of what is happening should be on board. Full throttle in education for buy in appreciation.
- Commitment from individual to national level is a requirement, this can start from the grass roots.
- Production unit: departments to generate income.
- Government involvement is a requirement. GVT should provide startup capitals and, prioritise funding.

- There is need for long-term strategies for example empowering of lecturers to be conversant with new technology, need of follow up and funding. This is achievable with a political will.
- Ministry should invigorate production to buy equipment. Lecturers and students who participate in the projects should be awarded. Ministry to allow students to go out of the country for attachment. Polytechnic curriculum should identify competence gaps and liaise with industrialists. Curriculum change after every 3 years is important. There is need for a demand driven curriculum. *COVID induced lockdown affected review of ND, HND curriculums they were last reviewed in 2018.*
- Infusion of SDG goals into the college curriculum as well as school curriculum.
- More time should be allocated to SD activities and programs.
- Having more sensitisation programs on SDGs.
- Encouraging the use of gender neutral terms, chairperson, head, etc.
- Having structures to cater for SD issues especially sexual harassment, counselling, disabled, etc.

Conclusions

- Institutions in the study were at different levels of interpretation, understanding and implementation of Agenda 2030 for Sustainable Development Goals. Hence differences in orientation toward the education for sustainable development. The majority of the participants did not have an all-inclusive knowledge and comprehension of ESD integration as an all-embracing systemic concept or a holistic approach to integrating ESD into the curriculum. Mainstreaming ESD should embrace both curriculum and institutional change so as to contribute to the overall re-orientation of education towards sustainability.
- Apart from marginalised SDG related content and programmes that have already been running in the institutions well before the adoption of the 2030 Agenda for Sustainable Development in September 2015, limited deliberate institutional sustainable development policies, strategies and programmes were realised in the study. There is no widespread mainstreaming of ESD Integration Framework in HEIs, arguably more of education about sustainable development than education for sustainable development. In other words, SDG content and practice are narrowly embedded within policies and specific areas of the curriculum.

Recommendations

- Having explored the provision of quality and sustainability in higher education in greater depth, a number of overarching recommendations for further consideration and discussions among researchers, policy makers and practitioners can be suggested:
- Education curriculum development institutions, higher education and research organisations should be at the forefront of the search and development of learning for sustainability content and practice, curriculum mainstreaming and institutional mainstreaming to enhance quality.
- Deliberate institutional sustainable development policies and support mechanisms that allow for both curriculum and institutional change to strengthen the overall re-orientation of education towards sustainability and quality education.
- Policy management system should provide guidance, oversight, coordinating, monitoring and evaluation to ensure an effective sustainable, and institutionalised educational response to quality and ESD.
- Support for quality and ESD related research, frameworks, strategies and programmes are needed to enhance both the quality and the evidence base of ESD.
- Support a stronger focus on transformative education, SDG content, practice, ICT and new ways of teaching and learning.
- There is need to empower higher education staff through professional development programs that focus on holistic approaches of sustainable development education and research.
- Higher education institutions are likely to be more successful if they aim at capacity building and training to enable individual and collective leadership for sustainability in higher education
- HEIs should establish sustainability as base line for higher education policies at national, regional and global level.
- Many of the targets may be easier to reach when strong and access equity based infrastructures are made available in education despite education being explicitly mentioned in relation to the outreach in Goal SDG 17. Access and equity to higher education may play a crucial role in reducing these social inequalities.
- Educational managers need to work with staff in their institutions to focus on inclusion, quality, sustainability and access, which are common themes throughout the SDG4 target.
- Investing in state of the art higher education and training institutions which is a core idea of structural approach in education is needed if SDG4 targets are to be achieved.

- Ensuring sufficient funding and political commitment to invest in higher education quality is essential and a common theme across all SDG4 targets.
- For Zimbabwe, it will also be important to recognise the importance of investing in foreign aid in order to close the economic and social gaps between developed and developing countries (SDG 4.9 and SDG 4.10).
- The implementation and maintenance of high quality higher education systems across Zimbabwe is recommended.
- Zimbabwe higher education need to raise awareness of benefits of learning among citizens and policy makers and putting better quality monitoring systems in place and building partnerships with other relevant stakeholders. There is need to bring higher education training opportunities to the people and also providing high quality teacher training. We need to improve the quality of higher education and develop educational standards that contain local and national issues. The SDGs call for inclusive and accessible education for all, but this might be difficult to attain if higher education institutions are unaware of how to achieve this through their work.

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