Sustainability Challenges

Zambia, unlike most of its neighbours, is one of the most politically stable countries in Africa. Consequently the country has experienced rapid economic growth over the last decade. However, its over-reliance on copper has made it vulnerable to falling commodity prices. The observed economic growth and massive investment in the copper industry has not yet translated into improving the lives of most Zambians, with two-thirds still living in poverty. The country also has one of the world’s fastest growing populations with the UN projecting that its population will triple by 2050. HIV/AIDS, malaria and tuberculosis, and now Covid-19 are Zambia’s biggest health development challenges.

In terms of education, despite noticeable success in the past decades, problems include shortage of trained teachers especially in science subjects, lack of suitable and adequate teaching and learning materials such as textbooks, inefficiency in utilisation and management of existing educational facilities and perennial misalignment between teacher education and developments in general education. In the biophysical sector, Namibia faces challenges related to climate change, droughts, floods, land and water pollution, deforestation and wetlands degradation.

Against this background, the Sustainability Starts with Teachers consultation workshop was designed to assess how the education system, particularly teacher education, can respond to these challenges via Education for Sustainable Development.

Sustainable Development

Zambia’s current National Development Plan (7NDP) has embraced an integrated multisectoral approach. The country has domesticated the SDGs, the AU Agenda 2063, among others, into its 7NDP. The 7NDP has mainstreamed most of the SDG goals and targets.

In reducing poverty and vulnerability, the government has been providing for half of households in extreme poverty by expanding the Social Cash Transfers (SCT) programme and providing support to vulnerable farmers, women, girls and school children.

The government has invested in infrastructure, including roads, airports, energy, health and education facilities, thus creating a conducive environment for sustainable economic growth. With regard to environment and climate change, in line with the Paris Agreement, Zambia has pledged to reduce its emissions significantly by 2030. Between 2015 and 2019 emissions have been reduced by 39% of this goal. Zambia is promoting sustainable initiatives such as renewable energy and has diversified its energy mix significantly from reliance on hydro power production. Solar energy currently accounts 3% of the total energy. Climate smart agriculture, water harvesting techniques and green infrastructure are part of the climate change adaptation interventions being promoted.

Human capital is key to responding to development challenges of the 21st century especially gender equality, health, new technology, innovations and skills development. Noticeable achievements include legislation to eliminate all forms of discrimination against women and girls, a decline in the maternal and child mortality rates, increased immunisation coverage and increased completion rates for school education.
Integrating Education for Sustainable Development in Teacher and TVET Education

On this premise, one of the government’s key priorities in the current national development plan (7NDP 2017-2021) is to create a conducive governance environment for a diversified and inclusive economy. To achieve this, the 7NDP 2017-2021 provided a conceptual framework that integrates Agenda 2030 and the Sustainable Development Goals (SDGs). Developmental outcome 2 in the 7NDP is “improved education and skills development” to be accomplished via two strategies. Strategy 1 is to enhance access to quality, equitable and inclusive education (consistent with SDG 4) and strategy 2 is to enhance access to skills development (consistent with TVET aspirations).

Zambia has integrated Education for Sustainable Development in education through the 2013 national school curriculum framework and seeks to link this to teacher training in universities, colleges of education and in trade training institutes. However, most teacher educators were only engaged in the curriculum change process following the launch of this curriculum framework. The awareness levels and the ability to implement these reforms differ among educators in teacher education and TVET institutions.

Education for Sustainable Development Challenges in Teacher Education

Despite efforts to include Education for Sustainable Development and sustainable development concerns in education, gaps were identified during the consultation workshop.

These include the lack of widespread Education for Sustainable Development capacity, lack of appropriate teaching and learning materials, inadequate knowledge and preparation among teachers to teach Education for Sustainable Development or mainstream cross-cutting issues in schools, and the inability to design and use alternative assessment for competences and values in the school curriculum.

In TVET, teacher educators acknowledge their lack of preparedness to develop competences beyond the technical skills; they cannot teach and assess the soft skills that are part of the 21st century competences. TVET institutions have inadequate infrastructure, learning spaces, and modern demonstration equipment making policy implementation difficult. Learners from these TVET institutes may be graduating with inadequate skills to match the skills-demand of industry or to start up their own enterprises.

Participants also observed that colleges of education tend to have better alignment with the Ministry of General Education policies and school curricula than universities do. This situation is, however, changing as there is evidence of change initiatives to align teaching and learning processes with the expectations of the national school curriculum.

The competence-based 2013 national school curriculum framework could guide the implementation of Sustainable Development Goal 4 in ways that can support the integration of Education for Sustainable Development in Teacher and TVET Education Programmes in ways that align with Target 4.7 of SDG Goal 4.

Participants also noted that clear assessment strategies are needed for Education for Sustainable Development and projects also need to be more substantively monitored and evaluated for their potential to advance learning objectives and outcomes.

The Contribution of the ‘Sustainability Starts with Teachers’ Programme in Zambia

The Sustainability Starts with Teachers programme aims to build on progress being made in countries to integrate Education for Sustainable Development into teacher education with a focus on Early Childhood Care and Education, primary, secondary and Technical Vocational Education and Training (TVET) teacher education institutions.

Special focus is on Sustainable Development Goal 4, which is oriented towards the achievement of educational quality within a lifelong learning framework, and Target 4.7 which emphasises integration of Education for Sustainable Development.

The Sustainability Starts with Teachers programme is action-learning programme centred on a contextually defined Education for Sustainable Development Change Project. A Change Project is an institutional curriculum or educational transformation initiative, relevant to a given context.
Twenty-six institutions in Zambia are participating in the programme and participating teacher educators have conceptualised various Change Projects with specific focus on the following:

1. **Curriculum harmonisation: Aligning teacher/TVET education with the national school curriculum**

The Zambia Education Curriculum Framework 2013 aims at developing competences, knowledge, skills, values and attitudes that ensure sustainability, including sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, citizenry, ecological sustainability, honesty and integrity, respect and appreciation of cultural diversity and of culture’s contribution to sustainable development. Participants identified gaps in practices of teacher education institutions and the national school curriculum and this is an indication of the need for curriculum harmonisation and aligning teacher/TVET education with the Competence Based Education in schools.

An effective Competence Based Curriculum requires a complete transitioning from the traditional subject knowledge-based and examination-oriented education that has dominated teacher development in the country, towards teaching and learning approaches that develop competences in support of social and environmental sustainability. Lack of suitable teaching and learning material, which support appropriate pedagogies and assessment, is a major hindrance to effective implementation of this curriculum.

A number of change projects worked to integrate ESD pedagogies to ensure development of competences in support of social and environmental sustainability in teacher and TVET education. For example, the Change Project at Mulungushi University was conceived to respond to the demands of the competency-based curriculum. It aims to produce high quality graduates that are relevant to 21st century demands – with skills and competences such as problem solving, creativity, critical thinking, innovation, entrepreneurship, leadership, and collaboration. Kitwe College of Education is also proposing a Change Project that will include curriculum harmonisation initiatives such as the modelling of learner-centred pedagogies by teacher educators and promoting the use of local, cheap and biodegradable materials.

2. **Whole-institution Education for Sustainable Development approach**

Sustainable development requires whole institution approaches to reflect the principles and practices of sustainability. This requires reorienting practices such as campus management, and institutional life to reduce waste, save energy and water, and reflect ethics of care and sustainability. Some of the initial Change Project ideas ensure that the institution includes sustainability actions in every aspect of school, college, university and institutional life. This includes administration, teaching content and methodology, campus and facility management as well as cooperation with colleagues and the broader communities.

For example, participants at Kasiya College are planning to ‘turn Kasiya College Green’ through involving every aspect of the college from administration to curriculum transformation. Kabwe Institute of Technology too is developing a Change Project that will work practically with lecturing staff to enhance understandings of ESD.

3. **Improving the quality and relevance of education by harnessing IKS and formal education**

An important focus for Education for Sustainable The Zambia Education Curriculum Framework 2013 outlines that learning institutions share the responsibility with the home and local communities of passing on to learners that part of the cultural heritage which is meaningful and useful in today’s society. In this light, the Sustainability Starts with Teachers programme tries to harness and valorise indigenous knowledge systems to strengthen relevance and quality of Teacher/TVET education.

Some Change Projects therefore will be designed to help teacher education institutions to contribute towards Zambia’s response to the social and ecological risks and vulnerabilities of communities such as floods and droughts particularly in its poor regions. Teacher/TVET educators will be supported to implement innovative Change Projects that foster the participation of communities in bringing about changes in practice.

4. **Broadening assessment**

The Zambian curriculum in general is driven by summative assessment of knowledge. Teachers teach learners to pass examination papers set at the end of the year. Teacher educators acknowledged that they also are inclined to teach teachers to deliver and assess content. This leaves very little space for teaching practices that consider the development of other competences e.g. collaboration, school-community activities and many more.

Sustainability Starts with Teachers provides technical support for adoption of interactive, exploratory, action-oriented and transformative learning approaches by both the teacher educators and learners and engages teacher educators in change projects to shift the mindset from summative assessment of knowledge as practised over the decades towards alternative assessments relevant for
5. Transforming learning and training environments

Education for Sustainable Development requires the transformation of learning and training environments so that these environments offer rich learning opportunities for sustainability learning. Therefore the learning and training environments themselves need to be transformed to reflect principles and practices of sustainability. Building on activities that have been taking place in institutions and schools in Zambia in alignment with the Global Action Program for Education for Sustainable Development (2015-2019), some Change Projects are collaborating with schools, industry and communities in producing suitable education materials, enhancing pedagogies in both teacher education institutions and schools. Some of these Change Projects are providing institutions and schools with a framework to improve their environmental performance by improving waste management, conserving energy and water. This helps to green institutions and to strengthen curricular activities that develop sustainable development knowledge, skills, values and competences.

For example, a Change Project at University of Zambia is reorienting pedagogy, content and assessment to address sustainability concerns in line with SDG 4.7. The project is targeting integration of sustainable development into course content and assessment practices, developing competences of 21st century teacher educator, and sharing good practices and working together.

6. Education for Sustainable Development and Disaster Risk Reduction Education

The COVID-19 pandemic and many other previous disasters have raised awareness of global and national vulnerabilities and the need for Education for Sustainable Development and disaster risk reduction education, including dealing with preparedness to deal with risks, challenges and opportunities associated with climate change. The Sustainability Starts with Teachers programme provides an opportunity for teacher and TVET institutions to rethink their curriculum in terms of Risk Reduction Education.

For example, a Change Project at the Copperbelt University seeks to develop 21st century competences among teacher educators and pre- and in-service teachers. The expected competences or outcomes from the project are anticipatory competency, strategic competency, systems thinking, normative behaviour and self-awareness, critical thinking and argumentation skills, communication and collaboration skills, and information literacy skills.

References


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For further information on the Change Projects and the Sustainability Starts with Teachers Programme, visit www.sustainabilityteachers.org