

Climate action is a key HE mandate and in need of funding

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As the Sharm el-Sheikh climate summit, COP27, unfolds, the higher education community are grasping the opportunity to put some of their demands on the conference table in Egypt, including calls to strengthen educational and research capacities of universities and research centres to tackle the impact of climate change.

Dr Jackline Nyerere, a senior lecturer of educational leadership and policy, co-investigator for a project focusing on transforming universities for a changing climate, and the leader of the Green Education Hub at Kenyatta University, Kenya, told University Word News: *“COP27 presents an opportunity for the African continent’s higher education institutions to highlight its climate action efforts, and to communicate the urgent need for the development of locally led mitigations and adaptation solutions supported by research and evidence.”*

“COP27 will also provide a platform for African higher education institutions to lobby global leaders for financial support for their role in research, training and community engagement activities,” Nyerere added.

Expanding further, Professor Adipala Ekwamu, the outgoing executive secretary of the Uganda-based Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), told University World that News that having COP27 in Egypt was a unique opportunity for the African higher education sector to mobilise commitments and action to transform universities to tackle climate change.

“COP27 puts Egyptian and African universities in the spotlight of climate change action and research as well as facilitates dialogue with the policymakers in Africa and world leaders to prioritise climate change actions,” he said.

“African universities should be able to showcase the need for climate change adaptation and financing, especially for technical support in agriculture, tourism and energy,” he added.

HE role in climate debate

According to Ekwamu, the African higher education sector has been contributing to climate change discussions and debates through participation in local, national, regional and international discussions and the co-generation [of research] along with the sharing of knowledge through conferences, webinars and publications.

“African universities have contributed in increasing the ‘carbon brainprint’ through the developing of curricula and pedagogical approaches to skill students on carbon neutrality, climate change mitigation and adaptation,” said Ekwamu.

The concept of the ‘carbon brainprint’ has been proposed to convey the intellectual contribution of higher education institutions to the reduction of greenhouse gas emissions by other organisations through research, innovation and knowledge transfer and teaching or training activities.

“African universities indirectly shape the climate change discussions through the training of future environmental auditors, community organisers, corporate managers, engineers, practitioners, technical professionals, policymakers and, most significantly, through creating community awareness about climate change actions,” said Ekwamu.

Expanding further, Nyerere said: “Several African higher education institutions, through the traditional roles of teaching, research and community engagement, are empowering communities to change their attitudes, acquire positive environmental values and participate in implementing green projects.”

Notable efforts involve engaging local communities through participatory action research approaches to design favourable interventions to solve climate change challenges.

“A few African higher education institutions have also begun to mainstream climate change content into their curricula along with using research to document climate change issues and to find solutions to the challenges.

“There are efforts by higher education institutions in Africa, though few and thinly spread, to integrate climate change content in curriculums, conduct relevant research, empower communities to respond to climate change and to involve students in climate action,” said Nyerere.

On the other hand, she said, higher education institutions in the Global South have not had much space to contribute to the development of global conventions and protocols.

“Their [the Global South] lack of involvement means that their voice is not represented and, to some extent, limits their contribution to climate action.

“However, the increased call for collaborative efforts presents an opportunity for African higher education institutions to contribute to bridging the climate literacy gap on the continent,” Nyerere added.

Regional centres of excellence

Ekwamu said that, despite the progress made by African universities in climate change knowledge generation, there is still a need for capacity-building in various climate-related disciplines on the continent, including climate foresight, big data science, artificial intelligence, climate information systems and climate change assessment.

“Thus, there is urgent need for COP27 to support the establishment of functional regional centres of excellence on climate science in the different African sub-regions – and synergies between centres should be encouraged,” he advised.

Ekwamu added that COP27 must also put forward action plans to strengthen partnerships and collaborations between institutions and Africa and those at the cutting edge of climate-change research.

Education for sustainable development

“COP27 must also help African higher education institutions to embrace education for sustainable development, hence they should redesign educational pedagogical approaches and empower learners to build knowledge, skills, values and behaviours critical for sustainable development,” Ekwamu said.

According to him, the availability of online modules that are easily accessible and translated to key local languages must also be encouraged.

“There is a need to build the capacity of several higher education institutions to offer climate change courses and streamline climate change aspects in their curriculum.

“Besides adequate climate change actions, including research and outreach as well as dialogue with policy makers, monitoring tools need to be developed to capture progress made in climate change action on the African continent,” Ekwamu emphasised.

Multi- and transdisciplinary approach

Climatologist Coleen Vogel, a distinguished professor at the Global Change Institute of the University of the Witwatersrand, South Africa, told University World News: *“Higher education is critical for advancing a multidisciplinary and transdisciplinary approach to be able to understand the multidimensionality of the climate change issue”*.

“Training the next generation of scholars is critical, but with a key focus on the education needs and requirements for a just transition and a fair and equitable accountability of the North to the South on climate change,” Vogel added.

“COP27 must, therefore, ensure financial and technical support and an enabling environment to ensure the urgent actions that are required,” she said.

Structural reforms of educational institutions

Salwa Thabet Mekky, an associate professor of public administration and the director of international affairs at the Future University in Egypt, told University World News: *“One of the key pillars of sustainable development is the quality of education.”*

“Therefore, higher education policies must be one of the significant tracks to be discussed during COP27; especially with regard to most vulnerable countries which definitely include African nations” said Mekky, who is the author of a 1 November article entitled ‘Education is the kiss of life for climate action’.

“COP27 must focus on developing more resilient higher education systems in conformance with international academic trends, where interdisciplinary curriculum, interactive technology-based methods and cooperative online international learning have become key drivers,” Mekky added.

“This calls for action focusing on structural reforms of educational institutions and setting new legal frameworks which could contribute to institutionalising development-oriented educational and research policies as well as innovative mechanisms that are cornerstones for creating knowledge-based societies,” Mekky suggested.

Hub for climate change research

Professor Ahmed Attia, the head of faculty affairs at the faculty of medical technology at the University of Tripoli in Libya, told University World News that COP27 must also focus on developing a *“scientific hub for climate change research in Africa”* to unite efforts against the threat of climate change through developing partnerships in climate research among African academic institutions as well as promoting technology transfer and knowledge-sharing, along with harmonising efforts to advance collaboration in implementing research findings”.

“This hub will also help to join the forces of African science academies, universities, research institutions, international organisations and industry for integrating and mobilising their research, development and innovation capabilities towards addressing and achieving Sustainable Development Goals,” Attia added.

Desirable COP27 outcomes

For Nyerere, climate action should be one of African higher education institutions' key mandates, but inadequate financing has prevented institutions from discharging this mandate.

"African higher education institutions require resources to conduct research that 'speaks' to the continent's specific challenges in climate-sensitive sectors, such as agriculture, health, transport and water.

"My message to COP27 is that African higher education institutions need financial assistance to develop and implement green curricula, conduct solution-oriented research and contribute to climate action," she said.

"A desirable COP27 outcome will also be the involvement of African higher education in strategy and policy development on climate action and sustainability issues.

"Engaging higher education institutions in the process will enhance African universities' response to the climate crisis through teaching, research and community engagement.

"African higher education institutions are under-represented in climate research due to funding challenges," Nyerere pointed out.

"Thus, funding higher education will enhance extensive research and evidence-informed, locally led solutions to the climate crisis facing the African continent," Nyerere concluded.

African regional participation

Some of the intergovernmental organisations set to attend COP27 include the African Development Bank Group, the African Union Commission, the Southern African Development Community, or SADC, and the African Regional Centre for Technology as well as the West African Science Service Centre on Climate Change and Adapted Land Use, or WASCAL.

Regional research institutions, think tanks and NGOs set to attend include the Academy of Science of South Africa, the African Centre for Technology Studies from Kenya, the Center for Climate Change and Environmental Studies, Nigeria, the Council for Scientific and Industrial Research, South Africa, and the Centre for Energy, Environment, Science and Technology, Tanzania.

Regional higher education institutions set to participate include the universities of Cape Town, Wilfrid Laurier in Ghana, Pretoria in South Africa, and Nairobi in Kenya, as well as the University of Namibia.

Some session examples in which university experts will participate include, 'Universities as key solution providers: Leveraging our local and global networks for innovation', 'Capacity building on green skills to enable local, regional and international climate action' and 'Utilising expertise of the youth to bridge the science-policy divide and improve access to finance'.

The United Nations Educational, Scientific and Cultural Organization, or UNESCO, is expected to host a line-up of youth- and climate-focused sessions under several themes including, 'Youth and educators for global climate action: Participation, collaboration and implementation of UNESCO's Greening Education partnership' and 'Inaugural meeting on Greening Education Partnership: Getting every learner climate-ready'.

Universities in Egypt have been taking a leading role in pushing for youth participation in the climate discourse and action.

A team of 85 scholars, 35 students and staff members will represent the American University in Cairo to showcase the institution's research and green initiatives in the Green zone of COP27.

The British University in Egypt, which is expected to participate in various sessions, recently held a COP27 Simulation Model mock conference that brought together 130 students from 25 countries and 55 international universities.

The event allowed youths to learn debate and develop policy proposals and climate statements that will be presented during COP27 next week.

According to Dr Mahmoud Mohieldin, a keynote speaker during the event, the value of simulation is to make students aware of current challenges in society and aware of their role in society through solid research and education.

He added that universities had a critical role to play in supporting the preparation of COP27 through engagement in the education process which prepares university students to engage better and provide solutions to problems through research and spearheading evidence-based approaches in policymaking.