COMMONWEALTH
BUSINESS COMMUNICATIONS LTD.

COMMONWEALTH
EDUCATION REPORT 2019

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COMMONWEALTH
EDUCATION REPORT 2019

ROOTED IN AFRICA, GLOBAL IN REACH

From humble beginnings in 1918, Stellenbosch University (SU) has grown into one of Africa's leading research-intensive universities. It attracts talented staff and outstanding students from across the globe thanks to its world-class environment for research, teaching and social impact.

The University has 3 300 full-time staff members, among which 1 000 academics, and 305 postdoctoral fellows. A third of its 32 000 students are postgraduates, and the institution produces around 10% of South Africa's PhDs annually (the country has 26 public universities).

Known for its academic excellence, SU boasts the highest research output per academic in South Africa. It hosts 45 research chairs and seven centres of excellence.

With an eye to the future, SU is investing substantially in information and communications technology for blended and hybrid learning and teaching. Its open-access research repository has been ranked number one in Africa.

SU has well-established, far-reaching networks of international partners. It has institutional agreements in place with 109 universities in 42 countries on five continents, and is a founding member of the African Research Universities Alliance (ARUA).

The University offers strong support systems to foster the growth of start-ups within a vibrant, entrepreneurial ecosystem. SU has registered the most patents of all institutions in South Africa, and has created 24 spin-out companies since 2014.

SU's graduates are sought after in the workplace. However, the University also aims to deliver engaged citizens and responsible leaders who are willing to use their expertise to serve society.

RESEARCH INTENSIVE

Highest number of research citations per publication in South Africa

ROOTED IN AFRICA

38 multilateral partners in **26** African countries

GLOBAL IN REACH

4 378 International students from more than 100 countries (*13% of the total*)

Standing side by side with the town's sturdy old oak trees for the past hundred years, Stellenbosch University (SU) is an anchor institution in the historic town of Stellenbosch. It is located in South Africa's Western Cape province – just 50 km from Cape Town, 30 km from the Cape Town International Airport, and 20 km from Strand beach.

The area is known for its scenic beauty, featuring majestic mountains and rolling vineyards. Stellenbosch is set in the Cape Winelands, South Africa's largest wine-producing region, and it forms part of the Cape floristic region, a biodiversity hotspot.

The university town of Stellenbosch has become a popular tourist and conference destination, offering an impressive array of venues and accommodation. The University has an open campus in the heart of the picturesque town, which has many top restaurants, coffee shops, boutique hotels, museums and art galleries.

RANKED
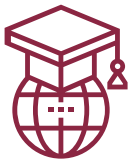
in the top
1%
of universities worldwide

SOCIAL IMPACT

170
projects on SU's unique Social Impact Knowledge Platform

STUDENT SUCCESS

8/10
students complete their studies, the best performance by any South African university

COMPREHENSIVE OFFERING

Faculty of Arts & Social Sciences

Faculty of Theology

Faculty of Engineering

Faculty of Law

Faculty of AgriSciences

Faculty of Science

Faculty of Economic and Management Sciences

Faculty of Medicine and Health Sciences

Faculty of Education

Faculty of Military Science

saam vorentoe · masiye phambili · forward together

WITH THANKS TO OUR PARTNERS

THE ROYAL COMMONWEALTH SOCIETY

The Royal Commonwealth Society (RCS), founded in 1868, is a network of individuals and organisations committed to improving the lives and prospects of Commonwealth citizens across the world.
Through youth empowerment, education and advocacy, The RCS promotes the value and the values of the modern Commonwealth. The RCS has a long and rich history of contributing to education in the Commonwealth and nurturing the creative talents of young people.

Visit **www.thercs.org** to find out more.

The Association of Commonwealth Universities

The ACU is an international organisation dedicated to building a better world through higher education. International collaboration is central to this ambition: by bringing universities together from around the world – and crucially the people who study and work within them – the ACU helps to advance knowledge, promote understanding, broaden minds and improve lives.
The ACU champions higher education as a cornerstone of stronger societies, supporting its members, partners and stakeholders as they adapt to a changing world.

Visit **www.acu.ac.uk** to find out more.

COMMONWEALTH of LEARNING

The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government in 1987 to promote the development and sharing of open learning and distance education knowledge, resources and technologies.
Hosted by the Government of Canada with headquarters in Burnaby, British Columbia, COL is the world's only intergovernmental organisation solely concerned with the promotion and development of distance education and open learning. COL is committed to promoting equitable access to quality lifelong learning for all.

Visit **www.col.org** to find out more.

UN WOMEN

UN Women is the United Nations entity dedicated to gender equality and the empowerment of women. A global champion for women and girls, UN Women was established to accelerate progress on meeting their needs worldwide.
UN Women supports UN member states as they set global standards for achieving gender equality, and works with governments and civil society to design laws, policies, programmes and services needed to ensure that the standards are effectively implemented and truly benefit women and girls worldwide.

Visit **www.unwomen.org** to find out more

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WITH THANKS TO OUR SUPPORTERS

NIGER DELTA UNIVERSITY

VISION

To be a centre of excellence, defined by well-articulated programmes to produce creative and innovative minds.

MISSION STATEMENT

To strive to maintain an international reputation for high quality scholarship, research and academic excellence for the promotion of the social, cultural and economic wellbeing of humanity.

OUTSTANDING ACHIEVEMENTS

Sports as Motivation and a Hope Builder

Niger Delta University is interested in the holistic development of young adults. Its development policy is therefore all-encompassing, giving the young the maximum opportunity to explore their potential to the very fullest. As evidence of this, the NDU contingent finished in 12th position at the recently concluded 14th West African University Games, ahead of first and second generation universities in the process.

Outstanding Students Chapter Award for the Society of Petroleum Engineers

The NDU Students Chapter were invited to Texas, USA in order to be presented with their award.

Institute of Electrical Electronics Engineers

Our Electrical and Electronics Engineering students participated at the Institute of Electrical Electronics Engineers in New Jersey (USA) in the IEEE Extreme Competition Worldwide, in New Jersey, USA where over 4,000 universities competed and Niger Delta University came in the top third.

Niger Delta University and Yokogawa Collaboration

NDU benefits from a partnership with Yokogawa, the Japanese electrical engineering and software company, for internship training where our students learn about Distributed Control Systems, Safety Instrumented Systems, Process Control Instrumentation and develop Quality, Health, Safety, and Environment skillsets.

National Universities Commission Accreditation

The University recorded an outstanding 100% success at the NUC Accreditation exercise of 2018. This achievement fully endorses the credibility and quality of the undergraduate and postgraduate studies available at NDU and proves the excellence and creativity of our teaching, research and community development programmes in line with our vision and mission statements.

Students conducting research at the central lab

NDU water factory

Students at the University Convocation Ceremony

Spawning of fish in fish hatchery

NDU sports team

Faculty of agriculture

A lecture in session

Faculty of arts

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" The UN looks forward to continued cooperation with the Commonwealth to uphold our shared values and achieve our common objectives. "

INTRODUCTION

Amina J. Mohammed,
Deputy Secretary-General, UN

The Commonwealth traverses a diverse grouping of countries that together house one third of humanity. As such, it makes important contributions to international cooperation for the common good. At the same time, we know that many of today's global challenges are present across the Commonwealth, among them the imperative to ensure the peace and wellbeing of young people, today and tomorrow.

Forty per cent of the Commonwealth's main asset – its people – are aged under 30. Yet, they shoulder a heavy burden in a world of plenty. Millions are unemployed or lack the skills needed in an era of rapid change. Many live in countries affected by armed conflict and fragility. All will come fully of age in a world experiencing momentous advances in technology and the heightened impacts of climate change.

We who have built today's globalised world, with all its advantages and flaws, have a duty to empower younger generations to build better lives for themselves. Education is pivotal to this quest.

Indeed, education is one of the keys to unlocking progress across the 2030 Agenda for Sustainable Development. Achieving the 17 Sustainable Development Goals (SDGs) requires that people everywhere not only have access to quality education, but also develop the mindsets that will lead them to act as agents for a sustainable future.

The UN General Assembly recognises education for sustainable development as an integral element in quality education and a key enabler of all the other SDGs. Nurturing the global citizens of the future depends on specific efforts to help individuals better understand the environmental and social consequences of their daily choices, as well as the links between the economic, environmental and social dimensions of sustainable development. Through such education, learners gain critical life skills, the ability to make informed decisions and

the capacity to be active in the pursuit of sustainable development.

The core promise of the 2030 Agenda is to 'leave no one behind'. Yet, the unfinished business of achieving the Millennium Development Goals still leaves us with 263 million children and youth who are not in school, most of them girls and most of them poor, living in conflict areas or disadvantaged and marginalised in some other way. Of those in school, 60 per cent are not gaining proficiency in such basic subjects as reading and mathematics.

Moreover, despite the steady rise in literacy rates over the past 50 years, especially among youth, there are still 750 million illiterate adults around the world, most of whom are women. As with many development issues, there are significant gender disparities in literacy and vocational skills. According to UNESCO, for every 100 literate men, there are 91 literate women. In low-income countries, this figure drops to 74 women for every 100 literate men, and in Southern Asia

and sub-Saharan Africa, there are 76 women for every 100 literate men. In some countries, student achievements in literacy and numeracy have flatlined.

A solid foundation of early learning – literacy, numeracy and social/emotional knowledge – is essential, including a wider range of skills needed to navigate the dramatically changing landscape of work as the Fourth Industrial Revolution continues to unfold. Providing such quality education requires partnerships between governments, civil society, academia, the private sector and others. We also need to invest in teachers and reimagine aspects of education itself.

Education is not only a basic human right, but also a driver of economic growth, poverty eradication and sustainable development. By upscaling investment in quality education for all, and especially in girls' education, countries will be able to reap the benefits of the demographic dividend, improve their tax base and expand their fiscal space to pursue policies to accelerate the achievement of the SDGs.

Additional financing from domestic and international sources will be critical.

Representing some of the world's most advanced and largest emerging economies, Commonwealth countries are a significant driver of prosperity and peace. The common challenges they face – in ensuring education opportunities for young and old alike, improving educational quality, managing sustainability challenges and bridging digital divides – require reinforced collaboration and commitment across the Commonwealth, in particular through stronger synergies between education and labour ministries and between the public and private sectors. This will benefit individual countries and send a clear global message of collective responsibility for education as a global public good and as a foundation for galvanising progress towards the SDGs.

The UN looks forward to continued cooperation with the Commonwealth to uphold our shared values and achieve our common objectives. ■

UNIVERSITY OF DAR ES SALAAM

Where Your Future Begins

#1 PUBLIC UNIVERSITY IN TANZANIA

The University of Dar es Salaam, the oldest institution of higher education in Tanzania, stands among the most esteemed public universities in both Tanzania and throughout Africa. Dating back to 1961, the University has accumulated vast experience in cutting-edge scientific discoveries, unsurpassed dedication to quality research and unwavering commitment to community development and services. The University continues to be the leading university in Tanzania and, therefore, the national think tank for training, research and community services.

 # 30 IN AFRICA

International rankings place the University of Dar es Salaam among the top 30 universities in Africa. The University has achieved a competitive edge in training and research across the region. It remains a highly respected tertiary institution that continues to attract talented students and staff from Tanzania, Africa, Asia, Europe and further afield. Through our commitment to teaching, research and community engagement, the University is regarded as the preferred destination for study in Tanzania and beyond. We are proud of our achievements and the recognition accorded to our esteemed institution. It is an honour to serve our local and global community, and the University is always prepared to face any challenges and take a voyage of discovery in the creation of knowledge.

OUR STUDENTS

Currently, the University of Dar es Salaam is educating over 40, 000 undergraduate and postgraduate students, who come from more than 20 countries. We pride our student body for its diversity, commitment, social awareness, community engagement, creativity and academic excellence. Our students create and apply knowledge by critical thinking in preparation for leadership roles within a rapidly changing world.

The University of Dar es Salaam offers a global education

OUR FACULTY

Our Professors, Lecturers and Researchers are globally recognised and their scholarly exploration and contribution establish the University of Dar es Salaam as an agent for change throughout Tanzania and across the world. Our 1,500 members of staff are dedicated to advancing and exploring new ideas and employing them through their teaching, learning, research and public service. Through their dedication and mentorship, our students receive the best education in the nation.

OUR LIBRARY

We possess the largest library in Eastern and Central Africa, with a collection of over 800,000 books. Able to accommodate more than 2,500 students at any given time, the library is also equipped with a state of the art auditorium for local and international conferences capable of seating 600 people.

ACADEMIC UNITS AND PROGRAMMES

The University of Dar es Salaam is both the leading university in Tanzania and also the only comprehensive university in the country. Our academic programmes award Certificates, Diplomas, and Degrees at undergraduate and postgraduate levels. Current courses available at our Colleges, Schools, Institutes and Research Centres are listed on our website: **www.udsm.ac.tz**.

SOCIAL FACILITIES

Life at the University of Dar es Salaam is filled with excitement and experiences to treasure for a lifetime. We recognise a quality student experience derives from more than just academic study, which is why the University encourages all students to actively participate in all the various sports and recreational facilities which are available.

INTERNATIONAL COLLABORATORS

Our success as an institution is due to the unwavering support we receive from the Government of Tanzania, as well as our collaborative development partners internationally. We have agreements in place with with ten Universities in Asia, 23 in Europe, ten further in Africa and four in the USA. We also benefit from close relationships with the World Bank, SIDA, NORAD, the UNDP, NORHED, UNICEF, the EU, DAAD, UNFPA, USAID, the Open Society Foundation and the American Council of Learned Societies to name just a few. The University of Dar es Salaam cherishes such important friendships and it is through them that we excel as a leading centre of intellectual enquiry and exploration.

Come and join us at the University of Dar es Salaam, where your future unfolds

www.udsm.ac.tz

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The University of Dar es Salaam does not discriminate on the basis of race, color, national origin, sex, disability, age or any other category covered by law in its admission, programs, activities or employment matters.

EDUCATION AND THE COMMONWEALTH

Dr Greg Munro,
Chief Executive, The Royal
Commonwealth Society

" The SDGs can only be achieved with the active engagement, participation and ownership of young people."

The Commonwealth is home to one third of the world's population, nearly two thirds of which are under the age of 30. The nations of the Commonwealth are connected through a commitment to the Commonwealth Charter and its 16 values. Included in these values is a pledge to provide access to health, education, food and shelter, as well as a recognition of the importance of young people in the Commonwealth and a commitment to sustainable development.

Through its membership, the Commonwealth can, and does, play a significant role in contributing to the achievement of the 17 Sustainable Development Goals (SDGs), including SDG 4 – to ensure 'inclusive and equitable quality education and promote lifelong learning opportunities for all'. Given the demographic challenges and opportunities posed by a burgeoning youth population, the SDGs can only be achieved with the active engagement, participation and

ownership of young people. Central to this, and as a key enabler for global development, is the need to focus on education across the Commonwealth.

The challenge remains, however, that millions of Commonwealth young people are out of school, face gender discrimination or struggle to successfully transition to the world of work by finding a job. Social progress is not possible without education and provision of the necessary support for young people to further their aspirational and professional goals and unlock their potential to contribute to community-driven global development.

It is no surprise, therefore, that there is considerable depth and breadth of Commonwealth engagement in, and support for education across intergovernmental and accredited organisations of the Commonwealth. At the intergovernmental level, the Education Unit within the Commonwealth Secretariat convenes the Conference of Commonwealth Education Ministers (CCEM)

Young flag bearers represent each of the 53 nations of the Commonwealth at the annual Commonwealth Service at Westminster Abbey.

triennially. This is the largest of the Commonwealth ministerial gatherings and encourages networking across key education stakeholder groups: teachers, civil society, business, higher education and youth. In addition, the Youth Affairs Division of the Commonwealth Secretariat delivers informal education and youth development work through the Commonwealth Youth Programme. The Commonwealth of Learning, based in Vancouver, Canada, supports Commonwealth member states and institutions in strengthening their education policies and programmes.

Amongst accredited organisations of the Commonwealth, the Association of Commonwealth Universities (ACU) is the champion and voice of higher education, acting as a bridge between the higher education sector and Commonwealth governments. With membership of over 500 universities from across the globe, the ACU fosters a supportive and informed policy environment, as well as knowledge and skills exchange for higher education

domestically and internationally.

The Commonwealth Scholarship and Fellowship Plan (CSFP) is an international programme under which Commonwealth countries offer scholarships and fellowships to scholars of other member states. With support for over 35,000 scholars, there is a renewed focus on expanding the number of scholarships offered in low and middle-income countries.

The Commonwealth Education Trust advances primary and secondary education across the Commonwealth, with a strong focus on teacher professional development. The Council for Education in the Commonwealth is an NGO that aims to create an informed public opinion on the salient issues concerning education and training in the Commonwealth.

The Commonwealth Consortium for Education was established by a group of Commonwealth NGOs to help coordinate their efforts, on behalf of Commonwealth education, to stimulate

// Our future world belongs to our young people. We owe it to them to make youth-led community and global development a reality. Education is key to making this happen."

The launch of The Queen's Commonwealth Essay Competition 2019. Organised by The Royal Commonwealth Society, the competition contributes to literacy, expression and creativity among young people of the Commonwealth.

more coherence in their work and to provide a collective mechanism for interaction with ministries and the official Commonwealth intergovernmental organisations. The Commonwealth Girls Education Fund, established in 1925, sponsors girls of ability through their secondary schooling, who, without financial assistance from the fund, would be unable to continue their education.

At The Royal Commonwealth Society (RCS), we have a long and rich history of contributing to education about the Commonwealth and nurturing the creative talents of young people. We have collaborated on research to influence policy makers and highlight issues of Commonwealth concern, such as the role of education in preventing early child marriage. Our dedicated Youth and Education Team endeavours to promote active global citizenship through a programme of model Commonwealth Summits (Youth CHOGM), engaging simulations of a Commonwealth Heads of Government Meeting. We aim

to contribute to literacy, expression and creativity among young people each year, by inviting all young Commonwealth citizens aged 18 and under to take part in the world's oldest schools' international creative writing competition, The Queen's Commonwealth Essay Competition. This extremely popular programme offers Commonwealth young people with the opportunity to express their hopes for the future, opinions of the present and thoughts on the past, through written word. The 2018 theme, 'Towards a Common Future' and its associated topics, asked young writers to explore how the Commonwealth can address global challenges and work to create a better future.

As the RCS concludes its 150th year of existence, we aim to strengthen its support to education through collaboration with partner organisations, exploring support for broader literacy programmes and identifying alternative methods of expression by young people. Most importantly, we will support greater

education and awareness-raising among young people of their role in the overlapping SDGs and values of the Commonwealth Charter. Our future world belongs to our young people. We owe it to them to make youth-led community and global development a reality. Education is key to making this happen. ∎

// The challenge remains, that millions of Commonwealth young people are out of school, face gender discrimination or struggle to successfully transition to the world of work by finding a job."

INTERNATIONAL
TRAINING
INSTITUTE

INVESTING IN QUALITY AND AFFORDABLE EDUCATION FOR THE FUTURE OF PAPUA NEW GUINEA AND BEYOND

The International Training Institute (ITI) was established in March 1999 to provide affordable and quality education for the people of Papua New Guinea.

Today Certificate and Diploma courses in the areas of Business and Information Technology as well as Advanced Diploma program in Accounting, and have been associated with many local and foreign educational bodies and universities including some of Australia's most progressive universities.

ITI is a registered private higher education institute under the department of higher education, research, science and technology

Diploma in Business Accounting | Diploma in Business Management
Diploma in Human Capital Management | Diploma in Marketing Management

2302 | 1118

www.iti.ac.pg

UNIVERSITY OF KWAZULU-NATAL ™

INYUVESI YAKWAZULU-NATALI

VISION

To be the Premier University of African Scholarship.

MISSION

A truly South African university that is academically excellent, innovative in research, critically engaged with society and demographically representative, redressing the disadvantages, inequities and imbalances of the past.

The University of KwaZulu-Natal (UKZN) is one of the leading institutions of higher learning on the African continent. The University of KwaZulu-Natal is a multi-campus, residential, teaching and research-led university located in the picturesque province of KwaZulu-Natal. The University has a proud and rich heritage of academic excellence. The year 2010 marked the centenary of Higher Education in the province of KwaZulu-Natal – a centenary of scholarship, innovation and community engagement. This vast wealth of knowledge production lies at the heart of the University's success as one of the top institutions on the African continent.

At UKZN we are passionate about teaching and learning. Our purpose of **INSPIRING GREATNESS** is what we aspire to achieve in all we do. UKZN is one of three universities in South Africa and indeed in Africa rated amongst the top 500 universities of the world by the Academic Rankings of World Universities (ARWU).

The University is structured on a College model – each comprised of academic Schools within which Disciplines offer a comprehensive range of undergraduate and postgraduate programmes across five campuses – Westville, Edgewood, Howard College, Nelson R Mandela School of Medicine and Pietermaritzburg. Innovative curricula, dynamic teaching and learning, state–of–the–art laboratories and accredited professional degrees has earned the University the reputation as one of the leading institutions on the continent. Research activities span the natural, biomedical, humanities and social sciences.

The University has a reputation for academic excellence. A recent 10–year analysis by Thomson Reuters using the "InCites" international research analysis tool has rated mathematics research at UKZN number one in the country. According to the report of the Department of Higher Education and Training (DHET) on the 2012 Institutional Research Publications Outputs, UKZN produced 1424.22 publications units, which was the highest of the 23 publicly funded universities in South Africa.

UKZN boasts 14 prestigious South African Science and Technology Research Chairs that range from Quantum Information Processing to Gravitating Systems – placing us fourth in the country for the number of such Chairs. UKZN boasts eight NRF "A" Rated researchers – the fifth highest in the country.

The University's scientists play an integral role in the global fight against HIV and AIDS and Tuberculosis. The Centre of the AIDS Programme of Research in South Africa (CAPRISA), one of the largest HIV and AIDS research centres, is located at the University's Nelson R Mandela School of Medicine. Other major research centres in HIV and AIDS research include the Africa Health Research Institute (AHRI) .

The University's international partnerships in 66 countries provide an opportunity for direct interface and global academic exchange that enhances scholarship and the student experience. Join UKZN and embrace the many and diverse opportunities that await you.

EDGEWOOD CAMPUS

HOWARD COLLEGE CAMPUS

NELSON R MANDELA SCHOOL OF MEDICINE

PIETERMARITZBURG CAMPUS

WESTVILLE CAMPUS

INSPIRING GREATNESS

EDUCATION PRIORITIES IN A GLOBALISED WORLD

UNESCO's Director-General, Audrey Azoulay, implores Commonwealth governments to deliver education systems that are geared to the challenges of our time, and outlines the major educational priorities that need to be addressed to build peace, eradicate poverty and drive sustainable development.

Audrey Azoulay,
Director-General, UNESCO

Education is the engine of the international development agenda, driving progress towards more peaceful, inclusive and prosperous societies. It has a transformative power to reduce poverty and promote active citizenship. With a focus on equity, quality and inclusion at all levels of education through a lifelong learning perspective, the UN's Agenda 2030 recognises that without education, there will be no freedom, nor sustainable development.

The rate at which the world is changing is unprecedented. The challenges of the technological revolution and of adapting to rapid climate change, in particular, are affecting the ways in which we work, learn, teach and live together. This could be a remarkable opportunity to overhaul the outdated models of education and training systems to adapt to our new reality, and ensure that children, youth and adults are equipped with the knowledge and skills they will need throughout their lives.

The Commonwealth, representing a third of humanity in all its diversity, is a microcosm of the challenges we face on a global scale. Forty per cent of its population is aged under 30, and these people shoulder

> **❝** As Commonwealth Secretary-General, Baroness Scotland said on the first ever UN International Education Day in January 2019, now is the time for 'radical rethinking and innovation' in education."

Girls and women are extremely under-represented in STEM fields - science, technology, engineering and mathematics.

Credit: Getty/monkeybusinessimages

Students in a primary school in Kigoma, Tanzania.

the heaviest burden of change. As Commonwealth Secretary-General, Baroness Scotland said on the first ever UN International Education Day in January 2019 – 60 years after the first Commonwealth Education Conference – now is the time for "radical rethinking and innovation" in education.

This change must ensure that, on the one hand, learners can cope with constantly evolving societies and, on the other hand, have the skills to shape the future in a way that is inclusive, equitable and sustainable. UNESCO supports governments around the world to design more holistic and relevant education systems that are

// 617 million children and youth are not achieving minimum proficiency in reading and mathematics."

Credit: Dietmar Temps/Shutterstock.com

for all by 2030. Teaching aids – whilst they can never replace teachers – can also enhance inclusive education, which is why UNESCO is currently developing its 'Recommendation on Open Educational Resources'.

A second major priority is to address the mismatch between the skills acquired within education systems and the needs of our constantly evolving jobs market. Currently, 2.1 billion people around the world are low skilled, and despite the steady rise in literacy rates over the past 50 years, especially among youth, there are still 750 million illiterate adults, most of whom are women.

We need to better anticipate the shifting demands for skills, and reorientate education and training systems to meet these demands. UNESCO works to support the anticipation of labour market needs and their translation into education programmes, guiding systems change to build lifelong learning policies that can facilitate education pathways from early childhood to adulthood, between formal and non-formal learning.

Another vital response is to address gaping inequalities in order to harness all human potential. A major priority for UNESCO is ensuring girls and women have equal opportunities, particularly in STEM (science, technology, engineering and mathematics) fields, in which they are currently extremely under-represented. Addressing inequalities in digital skills and expanding technical and vocational education and training opportunities – a priority for the Commonwealth Education Hub – would also open up new opportunities, including in the creative and cultural industries, which employ more young people than any other sector.

Recognising prior learning of students who have crossed borders into new countries can also help address the shortfall in labour market skills, particularly in the current context of a growing number of refugees and displaced populations. Education and migration are key themes in UNESCO's 2019 Global Education Monitoring Report, which concludes that recognition of prior educational qualifications is not only a matter of social and

geared to the challenges of our time.

Working collectively, our first priority must be to address the current 'learning crisis'. 617 million children and youth are not achieving minimum proficiency in reading and mathematics. It is unacceptable that two thirds of these children who are currently being 'left behind' are

actually attending school, but simply not learning the basics. Instead, these young people should be on the frontline of positive transformation in their societies. More and better qualified teachers are part of the solution, and UNESCO estimates that we need to hire an extra 69 million teachers to achieve quality education

Children drawing in a primary school education project to help those from deprived areas in Guayaquil, Ecuador.

economic integration, but also one of self-esteem and dignity. UNESCO is currently preparing the first ever Global Convention on the Recognition of Higher Education Qualifications, for a sustainable solution to the issue.

Given the rapid evolution in our societies, it is imperative that education adequately prepares learners to deal with uncertainty and change, not only for jobs that don't yet exist, but also for the transition to green economies and the digital age. More than ever, we need to increase the focus on the humanities and to build the emotional intelligence of learners, as well as developing 'soft skills' such as creativity, critical thinking, teamwork, communication, problem-solving and 'learning to learn'. It also means fostering education for global citizenship in a complex world, including values around sustainable development, human rights and mutual understanding.

One final major priority is to address the under-investment in education. UNESCO estimates that in order to cover the costs of basic education alone, we still need to invest an additional US$ 39 billion per year until 2030. Governments have the primary responsibility for meeting this financing gap by raising additional public revenues and prioritising education spending on the most marginalised groups. UNESCO supports countries in developing 'national education accounts' as a tool for policy makers, for better and more equitable allocation of public resources. External aid and innovative finance mechanisms can also help bridge the gap. At the same time, a more diverse aid architecture also calls for more efficient global coordination and complementarity of funding sources, which can be spearheaded through the UNESCO-led SDG-Education 2030 Steering Committee.

The evidence is unequivocal: education is a major determining factor of economic growth. It is one of the most powerful ways to improve people's health and in helping individuals to escape poverty. It is key for human dignity. To meet ambitious goals set in the Education 2030 Agenda, we need a surge in global solidarity, as education is a global public good, a human right and the main tool for building more resilient societies. ∎

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THE CONFERENCE OF COMMONWEALTH EDUCATION MINISTERS AND THE NADI DECLARATION

Education can deliver

Rosy Akbar, Fijian Minister for Education, Heritage and Arts, discusses the outcomes of the last Conference of Commonwealth Education Ministers and calls for increased collaboration to deliver the commitments made by member states to the Nadi Declaration, before explaining how she is leading Fiji's education revolution.

The Honourable Rosy S. Akbar, Minister for Education, Heritage and Arts, Fiji

For the first time in the Pacific, Fiji was delighted to host the Conference of Commonwealth Education Ministers (CCEM) in February 2018, in conjunction with the first Integrated Partners' Forum. Under the banner of 'Sustainability and Resilience: Can Education Deliver?', ministers and education practitioners came together to define ways that education can deliver, not only on national mandates, but also on Sustainable Development Goal (SDG) 4: 'to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'.

There is no doubt about the importance of education as a fundamental human right, and its progressive implementation remains a priority for many of us. With 13 million primary age children and 20 million lower secondary age youth out of school across the Commonwealth, this presents an enormous challenge coupled with the transition to technologically enabled learning in many developing nations. Education is the foundation for each learner's future; it is also the foundation for meeting the SDGs and ensuring economic growth in an inclusive way. Indeed, in Fiji, although more women than men graduate from our national university, 67 per cent of our formal economy is made up of men.

The CCEM addressed issues of governance and management, building resilience and sustainable development,

Commonwealth Secretary General Baroness Scotland is presented with messages carried by climate ambassadors, Timoci Nausala and Shelvi Shakshi, at the 20th Council of Commonwealth Education Ministers (CCEM) Conference, Fiji, 2018.

as well as strengthening partnerships throughout the whole education system from early childhood care and education, to tertiary and technical and vocational education. We need to build a system that is fit for purpose in the 21st century, but is also adaptable for the 22nd century. This implies coming to terms with, even among small island states across the Commonwealth, the fourth industrial revolution and how we prepare students for a future in which technology is firmly embedded.

Within this context, the CCEM set a framework – the Nadi Declaration – with partners including various Commonwealth education institutions. By working together I believe that we can make rapid progress, building on the commitments made by member states to the Nadi Declaration. We are moving to increase collaboration through the sharing of resources – with many already being open source – as well as lessons learned, through the proposed 'knowledge alliance' and also simply in people-to-people exchanges within the ambit of inter-government cooperation. This process is being

monitored by the Education Ministers' Action Group, which I have the honour of chairing on behalf of Fiji.

There are several issues in the education sector that occupy us as leaders. We expect that students will graduate as literate and numerate, with the ability to think creatively, solve problems, innovate and work as part of a team. There is a vast array of different education systems across the world, all working to provide this solid platform from which students can launch their careers. Yet, there are complaints from employers that students completing higher and further education do not meet these minimum standards. This suggests to all of us that we need to review how we do things to create the future our students deserve. The education model currently at the top of many minds is in Finland, where there is less focus on exams - with the exception of the National Matriculation Exam, a voluntary test for students at the end of an upper-secondary school. In Finland, there is individualised grading of

students and a focus on cooperation not competition. The system also sets the bar high for teachers but holds them less accountable. Also interesting is that Finns receive only nine years of compulsory education from the age of seven, with the aim of allowing children to be children and to have fun. Each national model will be different, in order to meet different national needs, but analysis of what is best for our students is key to establishing the most productive education systems going forward.

The key elements of education have to be the curriculum, teachers and infrastructure, all of which should be based on a fundamental philosophy perhaps best promoted by SDG4. There are, of course, other areas that support the delivery of our education systems, including the teacher training institutions, access to technology and the internet (key in developing nations), the involvement of parents and guardians in the education of their children, strong and focused educational leadership and clear pathways.

" We need to build a system that is fit for purpose in the 21st century, but is also adaptable for the 22nd century."

The Honourable Rosy Akbar meets with children at Saravi settlement in Nadi, Fiji.

Within Fiji, I am leading the 'education revolution' to address these key elements. Working with local and international partners, we are creating a seamless and integrated curriculum that is technologically enabled and provided by inspirational teachers in schools that are safe. It sounds so easy but, of course, it is a major challenge and one that we are actively addressing in the interests of future generations of Fijians.

We will be reviewing our curriculum to ensure that we have distinct outcomes for each year and each subject. Education must be integrated, so that teachers use examples from other subjects in their classes, that they use local knowledge to ensure the lesson works within the local context, and that we encourage curiosity and engage young minds. In the curriculum we aim to embed the values of respect and tolerance, as well as financial literacy, entrepreneurial spirit and an understanding of the importance of climate change, anti-corruption and honesty, rights and obligations. It is a curriculum that is futuristic; which enables learning rather than teaching; which values our diverse societies and creates leaders with unshakeable integrity.

Our teachers, as professionals, will use technology in their teaching, but based on an understanding of each student's needs. Tuition on working with students that have learning barriers will be included in our teacher training curriculum, to ensure full inclusion in our schools over time and contribute to greater inclusion in society as a whole. Gender parity is important to encourage women into the formal sector and to grow our economy – it does take all citizens to contribute. Our teachers are at the forefront of these important initiatives and are key to their success. We need to empower them through creating a culture of continuing professional development or lifelong learning, and support them to be the role models that our students can follow and feel inspired by, to achieve their dreams.

In order to plan our infrastructure spend, we are undertaking an assessment of all our schools to develop a baseline from which we can then chart the different types of schools required and where. Using information from our ongoing statistics service and with support from experts in the field, we hope to develop an infrastructure plan to meet our future needs. This will take into account moving to smart classrooms in the short term, while ensuring accessibility for students needing to overcome physical barriers to education.

We have recognised the importance of Early Childhood Care and Education (ECCE) and in 2018, all teachers in our kindergartens were appointed by the ministry, which gave them access to the rights and obligations enjoyed by any civil servant. We need to build on this so that our youngest students are prepared for a full day's engagement in primary school. In our seamless approach, a handover from one school and one class to another should be managed in a systematic way. This will provide ongoing support for each learner on their education journey and meet their individual needs, whether in a university or in the TVET sector, both of which are equally important for economic growth.

Many countries are experiencing a skills gap and/or brain drain, as our skilled personnel opt for perhaps more attractive work opportunities overseas. We have acknowledged this and are working to coordinate our TVET sector to ensure maximum outcomes from a coordinated approach across private service providers and those from the public sector. TVET skills are critical to a smooth running economy and should no longer be regarded as a second rate education, but valued for the impact they have on ensuring economic growth.

This is part of our continuing commitment to addressing social and economic inequality, meeting our national development plan outcomes and the SDGs, as well as our common mantra of 'leaving no one behind'. This is all set out in the Nadi Declaration which boldly states that 'Education Can Deliver', and deliver we must. ■

DUT: TRANSFORMING
SOUTH AFRICA'S
FUTURE NOW

The Durban University of Technology (DUT), located in Durban and Pietermaritzburg, South Africa, offers higher education excellence at the cutting edge of technological training and relevant research.

The University boasts more than 30 000 annual enrolled students on its five campuses in Durban and two in Pietermaritzburg. It offers courses and programmes leading to officially recognised higher education degrees such as pre-bachelor degrees (i.e. certificates, diplomas, and associate or foundation degrees), Bachelor, Master's and Doctorate degrees in several areas of study. Its faculties include Accounting and Informatics, Applied Sciences, Arts and Design, Engineering and the Built Environment, Health Sciences and Management Sciences.

DUT is student-centred in its approach by designing its programmes, infrastructure, social interactions and technologies to specifically meet the needs of its students. In addition, it shapes its teaching and learning and research to support economic development, engagement with local and national government and to improve community quality of life.

A compulsory experiential learning segment is offered during courses, thus graduates are practically prepared for the world of work. In its drive towards becoming an entrepreneurial University, DUT also thoroughly prepares graduates to become budding small business owners.

DUT has 1 565 staff members. Academic staff are strongly encouraged to pursue the highest possible qualification in their field, and the University is a member of the International Association of Universities, thereby retaining internationally recognised standards.

DUT achievements over the past year

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- NRF Excelleration Award
- NRF Award
- Distinguished Women in Science
- HSRC Medal
- HELTASA
- CSE (Centre for Social Entrepreneurship) – 1st Runner-Up award: Incubator of the Year

Chairs
- Wholesale and Retail Chair
- BankSETA Chair
- Water and Waste Water Technology Chair

Grants
- BRICS Grant (Biotech)
- NRF National Equipment Grant – IWWT (9)

Students
- Enactus (South African champions)
- 1st prize PlatAfrica 2018 jewellery design and manufacturing competition
- Top 3 – Vodacom Durban July Young Designer Award

International Committees
- Chairperson of the BRICS Network University International Thematic Group on Water Resource and Pollution Treatment

Established Research Focus Areas
- African Indigenous Knowledge Systems Research
- Composite Research Group (CRG)
- Computational Modelling and Bioanalytical Chemistry
- Enzyme Technology
- Food and Nutrition Security
- International Centre of Non-Violence (Icon)
- Institute for System Science
- Institute for Water and Wastewater Technology (IWWT)
- Plant Biotechnology

The Urban Futures Centre (UFC)
- Emerging Research Focus Areas
- Energy
- ICT and Society
- Maternal Health
- Management Studies
- Transformation through the Arts and Design

Contact:
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REALISING SUSTAINABLE DEVELOPMENT GOAL 4:
There is no time to waste

Stefania Giannini, Assistant Director-General for Education at UNESCO, reviews progress against Sustainable Development Goal (SDG) 4 and argues that as a powerful enabler for sustainable development and more inclusive and equal societies, education is a fundamental human right and, now more than ever, the only real passport to freedom.

Stefania Giannini,
Assistant Director-General for
Education, UNESCO

" Latest data show there are around 262 million children out of school."

Education has always been a UNESCO top priority, and we are proud to lead and co-ordinate the Education 2030 Agenda, which includes the mammoth tasks of meeting the ten education targets of Sustainable Development Goal 4.

The global reality for an agenda designed to end poverty is sobering. The latest data from the UNESCO Institute for Statistics (UIS) show that there are around 262 million children out of school. Girls still face the greatest barriers to education in most regions, and particularly in sub-Saharan Africa, where girls of every age are more likely to be excluded from education than boys.

Despite advances made in literacy rates over the past 50 years, there are still 750 million illiterate adults around the world, most of which are women.

The chronic lack of trained teachers adds to the difficulty of delivering on the promise of a good quality education for everyone.

The denial of education continues to be shaped by wealth, with significant gaps between out-of-school rates in the world's richest and poorest countries. These gaps begin to appear at the primary level, with almost every child in primary school in high-income countries, while this is the case for only 80 per cent in low-income countries. And the gaps widen with age: 60 per cent of youth of upper secondary school age are not in school in low-income countries, compared to just six per cent in high-income countries.

Set against this stark picture, we know that if all adults completed only secondary school, the global poverty rate would be more than halved. For this reason alone, there is no time to waste.

Our minds are concentrated by the 11 short years left to deadline and by the task that is left to carry out, hand-in-hand with the governments and partners we work with.

As the sole UN agency mandated to cover all aspects of education, UNESCO is strongly positioned to call for change using its global and convening role and close links to education ministries and other partners in 193 countries.

Let's be clear: it is first and foremost each country's responsibility to ensure the right to education for all their citizens – children, youth, women and men. And countries are in the driver's seat to make sure that sufficient progress is made towards the ten SDG 4 targets.

This girl takes part in a project in Egypt awarded the UNESCO Prize for Girls' and Women's Education, for helping expand female access to quality education and further their career development.

❝ Three years into implementation of the 2030 Agenda, countries in all regions have made efforts to align national education policies and strategies with its commitments."

UNESCO's role is to provide global and regional leadership and support countries through policy advice, technical assistance, capacity development and monitoring of progress. It already has in place powerful and well-developed tools for measuring progress towards the targets.

The UIS is the official source of the cross-nationally comparable data needed to monitor progress and better target policies and resources where needed. It provides the world's most comprehensive dataset on education, and is developing a range of new indicators and tools to measure the quality and equity of education, to help ensure that every child is in school and learning by 2030.

The UNESCO flagship publication, the Global Education Monitoring Report is an editorially independent and evidence-based annual report, which reviews progress towards the ten SDG targets and provides in-depth coverage of a specific theme that requires the international community's collective attention. The 2019 edition, "Migration, displacement and education: building bridges, not walls" demonstrates the importance for governments to include migrants and displaced children and youth in national education systems, while the 2020 edition will focus on inclusion, the imperative for leaving no one behind.

Four years into the implementation of the 2030 Agenda for Sustainable Development, we can see that countries in all regions have made efforts to align their national education policies and strategies with its commitments. This has included moves to strengthen policy focus on the most vulnerable populations to ensure more effective and relevant learning, both for the world of work as well as for citizenship, to adapt education sector co-ordination, management and monitoring, and to strengthen linkages with other development sectors. Education conferences took place in all regions of the world in 2018 and led up to the

Sustainable Development Goal 4 and its targets

Sustainable Development Goal 4 has ten targets encompassing many different aspects of education. There are seven targets which are expected outcomes and three targets which are a means of achieving these targets. There are also education elements in the targets of several of the other 17 Sustainable Development Goals

Seven Outcome Targets

4.1   Universal primary and secondary education
By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

4.2   Early childhood development and universal pre-primary education
By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

4.3   Equal access to technical/vocational and higher education
By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4   Relevant skills for decent work
By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.5   Gender equality and inclusion
By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

4.6   Universal youth literacy
By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

4.7   Education for sustainable development and global citizenship
By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

Three Means of Implementation

4.a   Effective learning environments
Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.

4.b   Scholarships
By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programs, in developed countries and other developing countries.

4.c   Teachers and Educators
By 2030, substantially increase the supply of qualified teachers, including through international co-operation for teacher training in developing countries, especially least developed countries and small island developing states.

Adapted from the UNESCO website: https://en.unesco.org/education2030-sdg4/targets

A South African man uses the ABALOBI app, a tool to strengthen market participation of local fishers, illustrating how inclusive digital solutions can help people with low literacy levels.

Credit: Misr El Kheir Foundation

Global Education Meeting, organised in Brussels in December 2018, which gathered ministers and representatives of multilateral organizations, civil society, the teaching profession, youth and the private sector. In the Brussels Declaration, they affirm inclusion as the driving principle of all policies and call for strengthened resource mobilisation. They identify six priority areas for action – literacy, education for migrants, refugees and internally displaced persons, gender equality, skills, teachers and education for sustainable development and global citizenship – that serve as a roadmap for collective action in the years ahead.

These are important gatherings, not only to sustain political momentum but also to address the systemic challenges in education. But how to make education systems more agile and responsive to today's complex world? For example, literacy provision in its

> **"** It is first and foremost each country's responsibility to ensure the right to education for all their citizens – children, youth, women and men."

current forms is unlikely to prove adequate or feasible for the millions of illiterate people globally. Rather, it requires a rethinking of the definition and roles of literacy and programmes, as well as the support dedicated to their continuous transformation and expansion. This includes also considering literacy as a key element of lifelong learning and a continuum of level of proficiency.

More good news is the prominence given to education among development partners. Set in the context of the global 2030 Sustainable Development Agenda and its 17 goals, the wider power of education is more clearly recognised than ever. The UN General

Assembly adopted a resolution creating the International Day of Education, celebrated for the first time this year on 24 January at UN Headquarters. New initiatives, especially those focusing on increased funding to education have been launched, and it is our firm belief that there is no room for competition between the different institutions and agencies, but rather, a need for more collaboration and co-ordination to ensure that funds and efforts do not overlap and instead, move in the direction of optimal impact.

Together we can advance our collective commitment to leaving no one behind in education. There is no time to lose. ∎

WOMEN'S AND GIRLS' EDUCATION DRIVES A TRANSFORMATIVE SDG AGENDA

Executive Director of UN Women, Phumzile Mlambo-Ngcuka, asserts that effective, appropriate and well-resourced education for the millions of marginalised women and girls across the Commonwealth is essential to the success of the 2030 Agenda for Sustainable Development and the achievement of gender equality.

Credit: UN Women/Faith Bwibo

Phumzile Mlambo-Ngcuka,
Executive Director, UN Women

Betty Sam from the Solomon Islands was raised in a family where only the men were seen as worthy of education. At the age of 15 and unable to pay for school on her own, Betty begged her father for a chance to continue her education but was denied. Instead she moved to the capital, Honiara, and got a paid job as a house cleaner, which enabled her to enrol in a computer course. This course was a turning point in Betty's life; it provided her with the digital skills needed for a new, more fulfilling job and encouraged her to talk with other girls in her local community about the importance of education. She says: "I hope that other women can see that just because you don't have a formal education at school,

it doesn't mean that you can't keep learning new skills".

There are countless women like Betty throughout the Commonwealth and around the world. Women and girls whose education stalled because of poverty, or discriminatory social norms and cultural practices. Or those who had to leave school because of war and civil unrest, natural disasters or humanitarian crises. The barriers – and the opportunities – vary widely from country to country. That is why tackling them effectively requires a non-traditional approach and the recognition that a physical classroom is no longer the only – or even the main – space in which learning now happens.

Education is essential to the success

Emma Watson visits Mtakataka Secondary School in the District of Dedza, Malawi where she hears from Stella Kalilombe and Cecilia Banda, whose marriages were annulled and they returned to school.

of the 2030 Agenda for Sustainable Development and the achievement of gender equality, at every age. A good education can boost quality of life and open doors to decent work opportunities. It can give women and girls the life skills they need in order to know and claim their rights, to stand up against discrimination and violence, to become fully engaged citizens and to make decisions about their health care, including their sexual and reproductive health. It also benefits children, families and societies more broadly, through poverty reduction and enhanced economic growth.

But despite progress over the past decade, access to quality education is still not universal.

- In 40 out of 93 countries, fewer than 50 per cent of the poorest children have completed primary school.
- 48.1 per cent of adolescent girls in sub-Saharan Africa remain out of school.
- 15 million girls of primary school age will never get the chance to learn to read or write, compared with around 10 million boys.
- Two thirds of the world's illiterate adults are women.

It is not enough to simply improve access to and enrolment in education. Too many schools remain under-resourced, which can affect the quality of education for all students, through limited teacher training, excessively large class sizes and short supply of

// We need to find ways to better integrate technology into formal and non-formal education, so women and girls, wherever they are, can better their circumstances."

textbooks and other resources. But it is girls, in particular, who are often left behind in education, due to factors such as child marriage and unpaid care duties, bias amongst educators, and inadequate sanitation facilities that impact their safety and menstrual hygiene management. In conflict contexts, girls are more than twice as likely to be out of school than their counterparts in non-conflict countries, resulting in generations of lost potential and opportunity, even after the fighting has ceased.

Addressing these issues means changing the way that we view education, so that learning is accessible regardless of a person's access to a physical classroom and is also available throughout their lifetime. We need to find ways to better integrate technology into formal and non-formal education, including through the use of mobile devices, so that women and girls, wherever they are – be it a rural area, a culturally-restrictive community, a conflict setting or a refugee camp – can connect to educational materials and better their circumstances. We

need to provide opportunities for lifelong learning, so that women who have missed out on a formal education for any reason – women like Betty Sam – can develop the skills that will change their life's trajectory. This includes through second chance education programmes, which provide marginalised women with access to vocational training and entrepreneurship skills development tailored to their future in the workforce, and which address the factors that caused women to fail to enrol or drop out of school in the first place. And we need to work to overturn deeply rooted stereotypes and social norms that see women and girls as less deserving of an education, or that limit which subjects they have access to and encouragement in.

Rapid technological and digital advances, including automation, robotics and artificial intelligence (AI) are leading to a loss of jobs, and raising the potential for heightened inequality, especially gender inequality. At present, women stand to gain only one new job for every 20 lost elsewhere, whereas

the ratio for men is one new job for every four jobs lost. To close this gap, improved recruitment, retention and promotion policies need to be put in place, and investments made in building new skills and new jobs for women.

However, we need to ensure that women and girls are learning the right skills. New technologies provide employment opportunities that require women and girls to have skills ranging from basic digital fluency to advanced technical skills in science, technology, engineering, arts and mathematics (STEAM) and information and communication technologies (ICT). But right now there is a skills mismatch; some 42,300 employers across 43 countries and territories report that their demand for ICT skills has skyrocketed but that they cannot fill their job vacancies.

We need to support programmes that boost women's relatively low participation in STEAM professions, where job creation tends to be driven by technological developments, so that they are not left behind in the changing

> **" Women and girls must be able to access jobs in the digital economy without discrimination and be equipped to use technology in their private and professional lives"**

Credit: UN Women/Kennedy Okoth

Participants in the African Girls Can Code Initiative shared their experiences on the sidelines of the African Union Summit in Addis Ababa, Ethiopia, February 2019.

Fifteen-year-old Eno Ekanem from Nigeria attended the first African Girls Can CODE Coding Camp in August 2018. The African Girls Can CODE Initiative is a joint programme of the African Union Commission, UN Women and the International Telecommunication Union.

world of work. For instance, the African Girls Can CODE initiative is equipping participants like 15 year old Eno Ekanem, from Abuja, Nigeria with digital literacy, coding and personal development skills needed to pursue education and careers in ICT and coding. "Girls face discrimination in the sector, because computer science has always been seen as a course for boys, not girls", Eno says.

With countries competing for the most talented people, the newest technologies and the fastest-growing companies, governments have an interest in building new and relevant skills among their workers. For instance, the Government of Canada has committed to helping Canadians gain the competencies they need to succeed in future workplaces and to facilitate work-related transitions. Other Commonwealth governments can follow their lead by systematically integrating STEAM/ICT into their

education curricula and teacher training. This means prioritising the future of work, by keeping up with innovation, upgrading infrastructure and adequately educating and training their workforces.

Women and girls must be able to access jobs in the digital economy without discrimination and be equipped to use technology in their private and professional lives. They need equal access to information about the jobs of the future, STEAM education, training and re-skilling, as well as opportunities for apprenticeships, internships and jobs, in order to become technology creators and innovators. To dismantle barriers for the most marginalised learners, we need well-trained teachers, including women teachers, who understand the challenges women learners face and can act as role models.

We must also increase the availability of mobile learning for women and girls in conflict and crisis situations and

boost the number of women who are connected to the internet, and able to access education, wherever or whoever they are.

The tools to deliver innovative educational programmes have never been more accessible, but they are still not reliably getting that education to the people who need it most. It is up to all of us to make it possible for the most marginalised women and girls to fully harness innovation and technology, to improve the quality of education for all, and with that, enable truly transformative change. This will be absolutely critical to the success of the 2030 Sustainable Development Agenda. ∎

// We need to ensure that women and girls are learning the right skills."

KATYAVALA BWILA UNIVERSITY

Inovatio - Investigatio - Progressio

Founded in 2009, Universidade Katyavala Bwila is a not-for-profit publicly funded higher education institution located in the town of Benguela, Angola, whose population is 155,000.

Officially accredited and recognised by the Ministry of Higher Education, Science, Technology and Innovation, Universidade Katyavala Bwila is a coeducational institution with over 6,000 students enrolled at any time.

UKB offers courses and programmes leading to officially recognised masters degrees in:

- Transports Law
- Civil Law
- Curriculum Development and Educational Innovation
- Special Education
- Primary Education

- Educational Sciences (in Portuguese)
- Mathematics
- History and Geography
- Pre-School Education

University Katyavala Bwila University maintains an offer of quality training for undergraduate and postgraduate courses, with the opportunity of study available to able students across the provinces of Benguela and Cuanza Sul.

FACULTY OF MEDICINE

Created in partnership with the Provincial Government of Benguela, the principal medicine course taught in Benguela began its activities in the 2008 academic year. However, with the restructuring of Agostinho Neto University in 2009 , the Benguela Medical School was integrated instead with the Faculty of Medicine of Katyavala Bwila University. The general medical course is the only one taught in this combined Faculty currently, conferring the bachelor's dgerees on its graduates. The first graduate cycle was completed in 2013, where 57 trainee doctors successfully completed the course.

MISSION

To contribute to the social development of Angola, specifically with regard to the healthcare of the population, through the integrated and long term training of doctors and the development, dissemination and publication of information on influential health factors.

OBJECTIVES

To provide essenital training of high level physicians with the neceesary skills to develop fundamental health interventions at an individual, family and community level, and to contribute to the development of healthcare across Angola and to reduce the principal causes of disease and mortality amongst the population, whilst cultivating a sense of teamwork and exercising critical judgment, with scientific thinking and an ethical attitude informing all its procedures.

To contribute to the development of medical education in Angola through the exchange of information, experience and best practice, both domestically and internationally, and to forge alliances with scientific and technological research centres and with the private sector, according to prevailing tendancies and demands.

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TEACHING THE SDGS TO TRANSFORM OUR WORLD

Peter Thomson, Fijian Ambassador and UN Secretary-General's Special Envoy for the Ocean, asserts that it is essential to build awareness of the SDGs amongst children and youth to build momentum for action and achieve the global goals.

Ambassador Peter Thomson,
UN Secretary-General's Special Envoy for the Ocean and former President of the UN General Assembly

// The Commonwealth provides many excellent examples of how governments, educational institutions, teachers and students are raising awareness of the SDGs and building momentum for action and change."

These days, I preface most of my public remarks by assuring people that we have a plan to secure humanity's place on planet earth. Taken together with the Paris Climate Agreement, that plan is the UN's 2030 Agenda for Sustainable Development, with its 17 Sustainable Development Goals (SDGs) providing for people and planet. After many years of careful negotiation, the plan was agreed in 2015 by the leaders of every UN member state. Faced with climate change, ocean change and a burgeoning human population approaching the boundaries of the planet's finite resources, fidelity to this plan is vital for us all.

The fourth of the Sustainable Development Goals (SDG 4) requires us to ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all. Meeting SDG 4 is central to the achievement of the entire 2030 Agenda, for it links to and underlies all of the other SDGs.

With only eleven years left to achieve these goals, finding ways to accelerate progress toward the achievement of SDG 4 is becoming more and more important. Integral to this is to ensure awareness among children and youth of the importance of the SDGs to their lives. I'm confident that much of the human ingenuity and action necessary to transform our world by 2030 will come from them.

While I was the 71st President of the UN General Assembly, I wrote to every head of government in the world, asking them to ensure that the SDGs were part of the school curricula of their countries. Even if that is now the case, I am convinced there is still much more for us to do to raise awareness of the existential consequences of the SDGs for the wellbeing of people and planet.

The Commonwealth provides many excellent examples of how governments, educational institutions, teachers and students are raising awareness of the SDGs and building momentum for action and change. Governments are incorporating education roadmaps for sustainable development into their national policy plans. For example, Kenya launched the Education for Sustainable Development Policy in 2017 to serve as a catalyst for its achievement of each of the 17 SDGs. A core aspect of the policy is to increase awareness and knowledge of sustainability among the teaching community and thereby instill these values and skills among youth.

A further example is Singapore, which has aligned education with the SDGs by supporting character and

In order to achieve the SDGs we must ensure awareness among children and youth of the importance of sustainability.

// With only eleven years left, finding ways to accelerate progress toward the achievement of SDG 4 is becoming more and more important. Integral to this is to ensure awareness among children and youth of the importance of the SDGs."

citizenship education in schools, to help students learn to value socio-cultural diversity, care for others and raise global awareness and civic literacy.

SDG 14 is the ocean goal, dedicated to conservation and sustainable use of the ocean's resources. Here again the Commonwealth is acting, with leaders of member countries adopting the Commonwealth Blue Charter in April 2018. Kenya and Canada went on to co-host the Sustainable Blue Economy Conference in November 2018, which amongst other things, showcased commitments to youth engagement on ocean action. The conference's Youth Forum highlighted young people as effective agents of change and called for further education and training opportunities to support the aims of SDG 14.

It is pleasing to see that Commonwealth universities are now adopting integrated approaches to the SDGs in their curricula, community outreach, events and research centres. I note that Malaysia's UCSI University has adopted a three-year roadmap for integrated learning, training and practising of the SDGs and that it has hosted SDG conferences and awareness weeks, and has set up the online platform My SDG Step

for staff and students to share how they relate to the goals in their daily lives. Australian universities, such as Curtin University and the University of Sydney, have added advanced degree programmes and expanding curricula to address achievement of the SDGs. Some degree tracks at the University of the West Indies in Jamaica require students to enroll in a course on Literature and Education for Sustainable Development.

It was also gratifying to learn, pursuant to last year's Commonwealth Heads of Government meeting, that the UK Government produced the Our Commonwealth Ocean Teachers Education Pack, to enhance ocean literacy. In October 2018, the Commonwealth launched a toolkit, designed to boost green and blue growth through youth entrepreneurship, aimed at sustainable ocean-based solutions in sectors such as fisheries and tourism.

In my work around the world, it is hugely rewarding to observe young people taking ownership of the SDGs, and self-organising to increase awareness and create greater exposure for the goals in their communities and countries. By way of example, SDGs for Children is an online community initiated by Indian youth, through which young people can share stories

of their efforts to support the SDGs and learn from one another about how they can make a positive difference. In Canada, young people are collectively organising a Canadian Student Network for the SDGs that will amplify youth voices at the national policy level.

All of these youth-oriented initiatives work to build solidarity around the implementation of the SDGs. More power to them! They tap into one of humanity's greatest resources – the energy of young people, without which we would be lost. The global challenges before us are daunting indeed, but as one of the Commonwealth's greatest ever citizens once told us: "It always seems impossible until it's done!" Nelson Mandela had it right, so come on Commonwealth, let's get on with the job and realise the spirit and the far-sighted necessity of fulfilling the SDGs. ■

// Come on Commonwealth, let's get on with the job and realise the spirit and the far-sighted necessity of fulfilling the SDGs."

University of Nigeria
to restore the dignity of man

Office of the Vice-Chancellor

The University of Nigeria, Nsukka is a Federal University located in Enugu State. It was founded in 1955 and formally opened on 7th October 1960, operating from three campuses in Nsukka, Enugu and Ituku Ozalla. The University of Nigeria prides itself as being the first university in Nigeria modelled on the American education system. It was also the first land-grant university throughout Africa and continues to rank among the five elite universities within Nigeria. Classes began at the Nsukka Campus on 17th October 1960, with an enrolment of 220 students and 13 academic staff.

With its motto: **"to Restore the Dignity of Man"**, the University today has grown to 17 Faculties and over one hundred Departments. The main campus of the University is located on nearly 900 hectares of hilly savannah in Nsukka, some 80km north of Enugu, the State capital. The Nsukka campus enjoys a pleasant and healthy climate. An additional 200 hectares of arable land is available for agriculture, while another 200 hectares is set aside for the staff housing project.

The University of Nigeria is renowned for having produced first class academics and administrators. Notable amongst these is the author, Chinua Achebe, who held a research and teaching appointment at the University in the early 1970s and the astrophysicist, Sam Okoye, who founded the Space Research Centre in 1972. The Centre remains one of the few institutions in Africa which researches and offers courses in astronomy, at both the undergraduate and postgraduate levels.

The Medical School performs most of its activities in the University of Nigeria Teaching Hospital (UNTH), where doctors and other health workers are trained to exceptionally high standards and have proven over the years that they can effect a significant positive change in Africa, and for the entire healthcare system globally. Doctors and nurses trained in the institution have also contributed significantly to the advancement of medicine. The first open-heart surgery in sub-Saharan Africa was performed at the UNTH in 1974. The team of surgeons were led by the visiting Professor Yacoub from the United Kingdom, assisted by the Nigerian Professors Adikwu and Anyanwu. With the siting of the Nigerian National Cardiothoracic Centre at UNTH Enugu, the College of Medicine has since developed into the centre of excellence for cardiothoracic surgery and tropical cardiology for the entire West African region.

Today, the University of Nigeria, Nsukka has a particular focus on science and innovation. Through its iconic and visionary Vice-Chancellor, **Professor Benjamin Chukwuma Ozumba**, the University has added to its record of innovations by launching a fully-fledged, university-embedded science and technology incubator called the "Roar Nigeria Hub", which provides professional support to start-ups, researchers, entrepreneurs and SMEs. The Hub is the first of its kind in any university in West Africa.

Adding to this, the University has set up its own fully functional laptop assembly plant, which produces the 'Lion' brand laptop and, aiming even higher in an effort to produce IT-skilled graduates, the Vice-Chancellor has designated nearly 50 hectares of land for the construction of a new Science Park in collaboration with the Swedish Government.

The University of Nigeria remains the centre for academic excellence.

www.unn.edu.ng

HOW HIGHER EDUCATION IS DRIVING SUSTAINABLE DEVELOPMENT

Dr Joanna Newman and Professor Amit Chakma of the Association of Commonwealth Universities (ACU) shine a spotlight on the link between investment in higher education and a healthier, happier and more prosperous future for the Commonwealth and beyond.

Dr Joanna Newman MBE FRSA,
Chief Executive & Secretary General, Association of Commonwealth Universities

Professor Amit Chakma,
Chair, Association of Commonwealth Universities Council, and President & Vice Chancellor of Western University, Canada

> *Higher education will generate the leaders of the future – of nations, governments, education and beyond."*

In a world where millions of children are still denied primary education, it is understandable that many would consider this a priority: an injustice that must be squarely addressed before we even begin to think about education at a higher level. When universal basic literacy isn't assured, does higher education simply become a luxury we cannot afford?

Our answer is emphatically no. If we are serious about building a safer, healthier and more prosperous future in the long term, then higher education will play an integral part. In fact, it is something we cannot afford to ignore.

Let's take universal education as an example. No one disputes that every child has a fundamental right to basic education, but quality sustainable school systems cannot be achieved without higher education. We need universities to train high quality teaching staff, develop relevant curricula and find evidence-based approaches to learning and teaching. But it doesn't end there.

Higher education will generate the leaders of the future – of nations, governments, education and beyond.

These are the policymakers who will champion and safeguard access to education in future. University research, meanwhile, leads to vital innovation in health, technology and infrastructure – innovation that will ensure that children live long enough to attend school and can do so without their young lives being blighted by disease, poverty and hunger.

This one example illustrates the many and interconnected ways in which universities are driving sustainable development. If future generations of leaders, entrepreneurs, researchers, lawyers and health workers are to move the world forward, it is only through higher education that they can gain the knowledge, skills and mindset necessary to do so. At the same time, university research is integral to tackling the most pressing challenges of our time.

At the Association of Commonwealth Universities (ACU), we are deeply proud of the extraordinary work being undertaken in universities across the Commonwealth – work that underpins social and economic development and transforms lives. At some institutions, this might mean

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> **"** Universities instil more than just knowledge; they promote tolerance, environmental awareness, social responsibility and a sense of global citizenship."

The ACU Summer School brings students together from across the Commonwealth to explore global challenges.

> **"** When universal basic literacy isn't assured, does higher education simply become a luxury we cannot afford? Our answer is emphatically no."

the development of drought-tolerant crops or new ways to combat the pests and pathogens that blight them. In others, it means tackling the greatest challenges in health and wellbeing, from life-changing vaccines to the complex health and social needs of an ageing population. In some universities, it includes advances in cutting edge technology that can unlock the secrets of supernovas or enable remote surgery through real-time video feeds. And in all, it includes an ongoing commitment to producing skilled, employable graduates who bring prosperity to their nations and communities.

Less tangible perhaps, but no less profound, is the role of the university as a home for debate and open dialogue; a place where ideas can be advanced, tested and challenged, and where students are encouraged to develop a wider, more expansive view of the world. Universities instil more than just knowledge; they promote tolerance, environmental awareness, social responsibility and a sense of global citizenship. Indeed, many institutions have integrated the Sustainable Development Goals (SDGs) explicitly into their teaching, research, outreach and practice, so that graduates in all disciplines leave with a robust understanding of global challenges and a sense of collective responsibility to address them.

At the ACU, we believe that progress in all these areas can be greatly enhanced by international collaboration and we aim to promote this as widely as possible. Our Commonwealth Climate Resilience Network, for example, encourages universities across the Commonwealth to pool resources and share expertise and experience of coping with climate change and natural disasters, and is led by institutions whose campuses and communities have borne the brunt of weather extremes. Our Peace and Reconciliation Network explores the role of universities in

addressing past injustices, and offers a framework for progressive thinking and collaborative action in this area. And our work to promote international student and staff mobility is helping to build human capacity – including skilled academics whose knowledge and experience can then be shared and multiplied in the institutions and countries to which they return.

These sorts of collaborations remind us that universities in the Commonwealth are often acutely affected by global challenges – from a volatile climate to conflict and civil unrest. Yet, they also show us that universities can hold the solutions to the very challenges they face, and no more so than when they come together across borders.

In this, they give us great cause for hope, yet we cannot take them for granted. The precarious state of funding – both for universities and university research – demands that we must constantly defend their value as a public good. It demands that we become strident champions for higher education and its vital contribution to development, democracy and society at large. To invest in higher education is to invest in a healthier, happier and more prosperous future for the Commonwealth and beyond. So, perhaps the real question is: can we afford not to? ■

AN INTERVIEW WITH…

Professor NM Mokgalong, Vice Chancellor and Principal, University of Limpopo

Professor Mokgalong has been Vice Chancellor of South Africa's University of Limpopo since 2005. Under his leadership, the university's mission has focused on the developmental needs of communities, as well as academic excellence and innovativeness. In this brief interview, we discuss his vision for the University of Limpopo as a vehicle to find solutions for Africa, and the university's ongoing contribution to the sustainable development of the continent.

Q: The University's slogan is Finding Solutions for Africa. Can you explain what this means?

A: The University of Limpopo serves poor, rural communities of the Limpopo province which face similar challenges to those affecting many people living in Africa. In finding solutions for the communities we serve, these can be translated into serving the continent as a whole. For example, the university focuses on finding solutions for sustainable food, energy and water. These challenges face the majority of people on the African continent.

Q: What role do you see the University of Limpopo having in helping to achieve the Sustainable Development Goals and the socio-economic development of Africa?

A: The university is committed to conducting research that focuses on health issues affecting our communities, like HIV/AIDS, malaria, cancer, diabetes. Developing sustainable African food varieties for both plants and animals is a focus in our aim to eradicate hunger. Our Material Modelling Centre also focuses on creating a clean environment by providing energy solutions through its research on lithium-ion batteries. Africa is known for its mineral wealth and as a university, it is our intention to use these resources in a sustainable manner that benefits the communities we serve.

Q: How is the university developing its curriculum to reflect current and future global challenges?

A: The focus of the university is on Africanisation of the curriculum. Through the process of re-curriculation, we are able to address current challenges such as poverty, inequality and advances in technology, whilst delivering quality programmes that are fully accredited. The curriculum also tackles future challenges such as extreme climate changes, food scarcity and population issues. Our research focus is on ensuring sustainable use of fresh water and fresh water food sources such as fish. Globally, mental health is a growing challenge. Our mental health research niche area examines this challenge from an African perspective.

Q: What are your ambitions for the university over the next 10 years?

A: To provide access for more first-generation university students so that the communities around the university can enjoy a higher standard of living. To continue to be a leading university that caters for more students who are living with disabilities. To have research institutes in the areas of Africanisation and Indigenous Knowledge Systems, Women's Health, and Mental Health.

Q: You are keen for the university to work in partnership with stakeholders. Who do you mean by this, and why do you actively want to collaborate with them?

A: Our stakeholders represent a wide range of people and organisations that include: communities surrounding the university, other universities locally, regionally and internationally, industry and the corporate sector, research institutes, NGOs and the mining sector. Through collaborating with these stakeholders, we believe that we can achieve our vision and mission and be strategically focussed on finding solutions for Africa!

Q: One of the priorities for education in Africa is inclusive and equitable education. How is the university addressing this?

A: For every student who joins the university, we provide quality programmes irrespective of the background, orientation or economic status of the individual. In addition, our campus boasts facilities to cater for students with a wide range of disabilities.

Established in 2007, Busitema University in Uganda is a science and technology multi-campus public university with faculties of:

- Engineering
- Agriculture and Animal Sciences
- Science and Education
- Natural Resources and Environmental Sciences
- Health Sciences
- Management Sciences

The rural location of the campuses is intended to spur development across the entire Eastern Region of the country, and beyond. The founding Vice-Chancellor, Professor Mary J.N. Okwakol, is the first female Vice-Chancellor of a Public University in Uganda.

Vision

"A Centre of academic and professional excellence in science, technology and innovation"

Mission

"To provide high standard training, engage in quality research and outreach for social economic transformation and sustainable development"

When the University was founded, female students constituted just 13% of the enrolled undergraduates. To counter this, the University Council approved an affirmative-action policy in 2009 over its admissions, which has since resulted in Busitema University becoming a leading education institution for gender equality. Female engineering students now account for over a third of enrolments, with the ultimate target being an even gender split. Female staff levels also stand at over 30 percent, which is the highest proportion within a science-based institution in Uganda.

The University, in collaboration with the Forum for African Women Educationalists, a pan-African non-governmental organization founded in 1992 by five women ministers of education to promote girls' and women's education in sub-Saharan Africa, has supported poor but bright girls to achieve a university education. To date, 30 such students have benefited from the programme. In addition, the University carries out public talks and debates across the University campus and surrounding communities on gender issues. Currently, they are six 'gender clubs' supporting outreach on gender issues, with information being shared on the University's social media platforms.

Busitema University has ensured that its academic programmes, research endeavours and community interventions make a substantial contribution towards addressing development priorities. The University has also made a constructive contribution to Ugandan society by nurturing graduates with a life-changing education and equipped with the knowledge, competencies and skills required for their ongoing development.

Innovations made by the University, have benefited women in particular; providing young people with agribusiness skills to counter youth unemployment, establishing community-based education and service sites which have provided excellent platforms for health education, clinical clerkships and operational research for students and the faculty.

www.busitema.ac.ug

HIGHER EDUCATION AS A GLOBAL COMMON GOOD

Simon Marginson is Professor of Higher Education at the University of Oxford and the author of Higher Education and the Common Good. He examines the so-called 'public/private' benefits of higher education and argues that the many individual and collective outputs should be considered as a global common good.

Simon Marginson,
Professor of Higher Education,
University of Oxford

❝ There is a need to define and measure the output of higher education. At this point it gets difficult. ❞

From 1971 to 2016, the world Gross Tertiary Enrolment Ratio (GTER), as measured by the UNESCO Institute of Statistics, rose from 10 to 37 per cent, with most of the increase occurring after 1995. Four fifths of the world's 216 million tertiary students are enrolled in full degree programmes. In more than 60 education systems, many of them in Commonwealth member countries, the GTER now exceeds half of the school leaver age cohort.

If present trends are maintained, half of all young people will enrol in university degree programmes in another generation. Perhaps a third of all young people will graduate. However, there are major gaps in participation in the Commonwealth and elsewhere. In sub-Saharan Africa, Pakistan and Bangladesh, participation is still very low, though it has reached 25 per cent in India and is growing rapidly. Further, the quality of education and students' rates of completion vary greatly across the world, especially in private institutions.

Nevertheless, we are seeing an extraordinary growth of educated 'capability', to use Amartya Sen's term. This is fundamentally changing individuals, economies and societies. Higher education institutions, as well as associated functions in vocational training and research, are increasingly important in all countries and in cross-border relations. Along with the growth in higher education has also come a great expansion of expectations.

Families expect universities and colleges to deliver higher paid, respectable jobs and a better life. Business wants ready-made productivity in the form of compliant highly skilled graduates. Governments want higher education to reduce youth under-employment, build skills, expand access, foster adjustment to new technologies and deliver innovation, though they don't always grow higher education budgets to match the growth of enrolments.

Expectations have outrun financing and resources for higher education. Inevitably, there is more pressure to improve efficiency in the form of cost per unit of output. This creates a need to define and measure the output of higher education. At this point it gets difficult.

Policy makers and university leaders can draw on measures of the private economic benefits of higher education in the form of salary levels, rates of return and rates of employment. However, individual pecuniary benefits are only one part of the contribution of

higher education, which also generates:

- Individual non-pecuniary benefits, such as a contribution to graduates' health outcomes.
- Broader all-round consequences of developing students/graduates as more capable people.
- Shared, collective (jointly consumed) benefits such as equitable opportunity, social literacy, new knowledge via research, joint productivity in the workplace, tolerance of diversity and better international relations.

Economists define these benefits as 'public' in the sense that they cannot be directly produced on a profit-making basis in economic markets. This is especially the case for those outcomes of higher education that are collectively consumed.

Many economists argue that higher individual graduate salaries and rates of employment are private benefits that could, and perhaps should, be funded by students and families. However,

" We are seeing an extraordinary growth of educated 'capability' and this is fundamentally changing individuals, economies and societies."

nearly all economists agree that public goods are subject to market failure and can only be funded by governments or philanthropy. But public goods are often difficult to define and measure in standardised ways.

Part of the problem lies in the economic language of public/private benefits itself. The terminology is ambiguous. The term 'public' is not only understood to mean 'non-market', it is also widely used to refer to 'government'. However, shared 'public' benefits of higher education such as greater social equity, shared literacy or tolerance can be generated in non-state educational institutions as well as state institutions.

Further, the term 'public' tells us nothing about the intrinsic contents of collective benefits. 'Public' does not

necessarily mean 'good'. After all, in the strictly technical sense, an unjust war waged by an aggressive government is 'public' in both respects: it is produced on a non-market basis and it is produced by government. But such a war is not a common benefit.

An alternate way of thinking of education as a public good is the idea of education as a 'global common good', as developed by UNESCO, Rita Locatelli and others. These common goods are non-market education outcomes with positive social effects – activities that provide for such social relational qualities as solidarity and tolerance, equitable opportunity, human rights, shared scientific understanding and geographic mobility (freedom of movement of people).

INDIVIDUALISED GOODS

1. INDIVIDUALISED NATIONAL
Greater agency freedom
Better social position
Augmented earnings and
employment rates
Lifetime health and financial
outcomes, etc

2. INDIVIDUALISED GLOBAL
Cross-border mobility and
employability
Communications facility
Knowledge of diverse
languages and cultures
Access to global science

NATIONAL

GLOBAL

3. COLLECTIVE NATIONAL
Ongoing development of
professions/occupations
Shared social literacy, equal
opportunity
Inputs to government
Stronger regions, cities

4. COLLECTIVE GLOBAL
Universal global science
Diverse knowledge fields
Common zone of free critical
inquiry
Systems for exchange,
collaboration, mobility

COLLECTIVE GOODS

Source: Author (Marginson S, Higher Education and the Common Good, Melbourne University Publishing, 2016).

The diagram above provides a short summary of the many individual and collective outputs of higher education across all the countries of the Commonwealth. Items in bold type can be understood as common goods.

Across the world, higher education brings non-market common goods in many ways. Its role in building tolerance and political participation has been repeatedly measured in social research. In relation to freedom of movement, we know that graduates are more geographically mobile than non-graduates at the same level of income. Most fundamentally, education builds individual agency and confidence in all of those who graduate, and this creates better conditions for a rights-based society with high levels of social participation.

// Describing higher education as a 'global common good' emphasises education as a common right and a growing necessity, and source of global understanding."

Equality of social opportunity in and through education is a common good that is considered vital in all societies, regardless of how higher education is organised (private/public, free or fee-paying, etc.).

Describing higher education as a 'global common good' emphasises education as a common right and a growing necessity, and source of global understanding. It does not mean education should be the same everywhere. As well as meeting common rights and global standards, effective higher education is always nuanced to national-local language, culture and social needs.

Common goods are generated in private institutions as well as public institutions. This is not a licence to commercialise education systems in countries where mass participation is still emerging. States have a special obligation to foster the common good on an equitable basis – and purely commercial private institutions, that focus primarily on profit not learning, are less likely to generate common goods than are non-profit private institutions. ■

Kaduna State University

Kaduna State University was established under State law in May 2004, with the vision of becoming a world-class university providing excellence in Applied Sciences and Sustainability Studies. Since its foundation, the mission of Kaduna State University has been to provide an all-round university education of the very highest standard for the development both of the individual and the State, all the while inculcating the spirit of love, of tolerance, of understanding and unity for Kaduna State in particular, and Nigeria more generally.

ACADEMIC STRUCTURE AND ENROLMENT

The University is accredited to teach at both undergraduate and postgraduate levels, boasting two Colleges, two Schools, eight Faculties and 51 Academic Departments, hosting 29 Undergraduate Programmes and over 50 Postgraduate Programmes. According to statistics collated by the Joint Admission and Matriculation Board, a place of study at Kaduna is now the second most sought-after at a State University throughout Nigeria, which demonstrates our remarkable growth over the past 15 years. These achievements to date can be connected with the college of reputable academics that the University has been able to attract and assemble, alongside the sound and robust administration of the institution under the current Vice-Chancellor, Professor Muhammad Tanko. Student enrolment for the last academic year was in excess of 17,000.   Of these, 80 percent were undergraduates, with postgraduate representing the other fifth. The gender split of this total was 55 to 45 percent in favour of male students.

SUPPORT UNITS

Our support units are those not directly involved in teaching and research, but which provide vital technical and material support, as well as the coordination of academic activities. There are nine of these units in total:

- University Library
- Directorate of Information and Communication Technology
- General Studies Unit
- Entrepreneurship Research and Development Centre
- Centre for Energy and Environment Strategy Research
- Student Industrial Work Experience Scheme Unit
- Barau Dikko University Teaching Hospital
- University Teaching and Research Farm
- College of Basic and Remedial Studies

LINKS AND COLLABORATION

In an effort to internationalise our programmes and to ensure that Kaduna State University becomes widely known for our use of cutting-edge intellectual inputs to drive our teaching and research, we have engaged with league-leading universities with a view to establishing mutually beneficial partnerships majorly in the areas of research and staff training. Some of the Universities are the University Teknologi and Universiti Tenaga Nasional in Malaysia, Temple and North Carolina Universities in the USA and Coventry University in the United Kingdom, to mention just a few.

Looking to the future, Kaduna State University's strategic planning will provide for further faculties of Law, Education and Engineering to be established, and so provide ever more of our applicants to benefit from a first class education at our University.

CONTACT US

Kaduna State University comprises three campuses. Our main site is located on Tafawa Balewa Way in Kaduna, with another site in the suburb of Kakuri. Our final campus is located in Kafanchan, a town approximately 200km away.

Prof. Muhammad Tanko
(B. Sc, M. Sc, Ph. D, FCA, FCPA, FNAN)

www.kasu.edu.ng

INCLUSIVE QUALITY HIGHER EDUCATION SHOULD LEAVE NO ONE BEHIND

UNESCO's Chief of Higher Education Peter J. Wells, and Higher Education Specialist Paz Portales, discuss how ensuring quality higher education benefits not only the individuals concerned, but has the potential to dramatically improve the lives of all humankind.

Peter J. Wells,
Chief, Higher Education, UNESCO

Paz Portales,
Higher Education Specialist, UNESCO

❝ The Commonwealth, with more than 500 higher education institutions, has the potential, and the responsibility, to make higher education count. ❞

Higher education is grounded on the principle of its potential to change lives – to change the way we look at the world around us, to make learning and knowledge bring a difference, and make the world a better place for individuals and communities. The Commonwealth, with its nearly three billion people and more than 500 higher education institutions (HEIs), thus has the potential, and the responsibility, to make higher education count – not only for personal success and fulfillment, but also for the common good and the common pursuit of economic, social and humanistic development.

HEIs have seen unprecedented growth in their enrolment numbers over the last two decades, with conservative forecasts for student populations eclipsing 200 million globally, in as little as six years. Increasing student numbers is, of course, encouraging, and reflects the realities of labour markets and the need for knowledge-based societies. However, numbers of students in higher learning is only

an acknowledgment of the call to change. They alone do not guarantee a positive impact on society. Quantity of higher education attainment is now increasingly being considered alongside the quality of learning and how HEIs can make a real difference through their teaching, learning and research to so many more in society.

A great deal of research and discourse have, over recent years, been devoted to the issue of quality assurance and the quality enhancement of higher education. Processes and procedures for monitoring, reporting and demanding improvements in every aspect of university life have been developed. Issues, from governance and management to financial accountability, public-private partnerships, internationalisation, student retention rates, teaching and learning technologies and research, impact the indicators that have been introduced. Each of these mechanisms is vital and certainly required to ensure the relevance of the modern cosmopolitan university, but, often such qualitative matrices also revert to

Participants of the UNESCO-Shenzhen Project on Quality Assurance in African Higher Education, Pentecost Life University, Malawi.

❝ Higher education institutions have seen unprecedented growth in their enrolment numbers over the last two decades, with conservative forecasts for student populations eclipsing 200 million globally, in as little as six years.❞

blunt quantitative measures. Pressures to meet criteria and benchmarks too often ignore the fact that learning is personal and individual and should not only be assessed in terms of meeting institutional statistical targets.

Quality higher learning has been emboldened by the world community in Sustainable Development Goal (SDG) 4, sub-target 4.3: 'By 2030,

ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university', yet, unpacking the realities of what this translates to is often missed. Teaching, learning and research at the university level now have a responsibility to focus, not only also on the quality of education itself, but on the quality of life that the world community needs to be embraced by all of the 17 SDGs. From clean water, to safe environmental practices, democratic and inclusive societies, access to health services and healthy lifestyles and urban development, every study discipline must now incorporate these world issues into their curricula, critical thinking and research agendas. Whether it be social science, natural science or the humanities, students need to be challenged to make a difference within their field of gained knowledge to address the SDGs for the communities they will serve after graduation, with the central pursuit of 'leaving no one behind'.

Knowledge, critical thinking and problem solving can no longer be

restricted by national boundaries or the reserve of traditional learners. The internationalisation of higher education has become a buzzword for quality higher learning in recent times, and the success of drives for international cooperation has all too often been simplified to blind statistics on the numbers of international students, faculty or researchers at a given HEI. This fundamentally fails to appreciate the potential of international cooperation and understand that higher education – perhaps more than any other level of education – can contribute to peace, security and development. The Commonwealth's shared vision for this humanism is best placed to ensure that the internationalisation of higher education simultaneously connects cognitive and emotional intelligence with a cultural intelligence. The sharing of cultural, religious and traditional beliefs, as well as knowledge bases and skills is essential, not least for realising the SDGs and the 2030 Education Agenda.

'Quality and Equity of Access' are central to SDG 4, and the specific

Students discuss inclusive quality higher education at the International Meeting of UNESCO Chairs on Inclusion, Diversity and Quality in Higher Education, Chile, 2018.

mandate of UNESCO, to ensure that nations work to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all', by considering as one of its main indicators 'ensuring equity and inclusion in and through education and address all forms of exclusion and marginalisation, disparity, vulnerability and inequality in education access, participation, retention and completion, and in learning outcomes'. Inclusion in higher education is thus not only key to fulfilling this goal, but also to building inclusive societies with a common aspiration.

Although humanity has achieved unprecedented social progress in recent decades, it has been uneven; social inequalities persist and sometimes worsen, as many groups face barriers to their participation in the economy, politics and social development. Poverty affects large portions of the world's population – according to the UN Department of Social Affairs, the number of people living in extreme poverty in 2015 was 736 million. Globally, the youth unemployment

rate was estimated by the International Labour Organization to be twice as high as the total unemployment rate in 2017, and a growing number of young people are neither in the education system, nor employed or in training. Such indicators show how economic globalisation is contributing to widening inequalities. Unfortunately, education systems contribute to these issues by ignoring the educational needs of disadvantaged students and of many living in poor countries. Nevertheless, although education can reproduce or even exacerbate inequalities, it can also serve to equalise them.

Inclusion of talented young people in higher education – especially those from families whose rights have not been respected – offers an opportunity, not only for their beneficiaries, but also to open potential opportunities for the entire education system and society at different levels. Indeed, the positive relationship between countries' economic prosperity and the investment they make in education, due to the social benefits it generates, has been widely documented. When

we lose the opportunity to educate the most capable students, we diminish not only their individual opportunities, but also those of the country.

Quality higher education is not a process. It is a value system. It is a shared understanding that knowledge leads to solutions that shape every individual and that every individual regardless of their background, nationality or belief systems has a role and duty to share their acquired knowledge for the good of improving the lives of all humankind. ∎

// When we lose the opportunity to educate the most capable students, we diminish not only their individual opportunities, but also those of the country."

THE UNIVERSITY OF SIERRA LEONE

Higher education in Sierra Leone was restructured by the Universities Act of 2005, which provided for the establishment of private universities. Under this Act, the University of Sierra Leone was reconfigured to incorporate the historic Fourah Bay College, the Institute of Public Administration and Management and the College of Medicine and Allied Health Sciences. Since 2005, administration of the University of Sierra Leone has been overseen by a Vice-Chancellor and Principal, who are the chief academic and administrative heads of the University respectively, and a Registrar.

Fourah Bay College

The oldest college of the university was established as far back as February 1827 and is administrated by a Deputy Vice-Chancellor and a Deputy Registrar. It comprises four faculties: Arts, Engineering and Architecture, Pure and Applied Sciences and Social Sciences and Law. In 2000, the College replaced the trimester with the semester system. The rearrangment of the academic year from three to two sessions also gave birth to the modular system of student assessment.

The College is located on Mount Aureol, with a picturesque view overlooking Freetown, the capital of Sierra Leone. Its beautiful landscape and serene learning environment are etched into the beautiful green scenery and provide a panorama over much of the capital city. At a 300m elevation above sea level, and with a low carbon foot-print, the location is ideal for both learning and ecotourism.

The Institute of Public Administration and Management

Established on 5th November 1980, it has two faculties. The Faculty of Management Sciences comprises four departments – Accountancy and Finance, Business Administration, Banking and Finance and Public Administration – and the Faculty of Information Systems & Technology, which is composed of the Department of Information Systems and the Department of Technology.

The College of Medicine and Allied Health Sciences

The first medical school in Sierra Leone was founded on 12th April 1988 by the Government of Sierra Leone, in collaboration with the Federal Government of Nigerian and the World Health Organization. The College is tasked with the training of doctors, nurses, pharmacists, biomedical scientists and laboratory technicians, with a view to improving the healthcare delivery system across Sierra Leone through its four faculties of Basic Medical Sciences, Clinical Sciences, Nursing and Pharmaceutical Sciences.

Image by mifi68 - Freetown from Fourah Bay College

usl.edu.sl

EXPANDING ACCESS TO HIGHER EDUCATION IN AFRICA

Professor Etienne E. Ehile, Secretary General of the Association of African Universities, addresses the exploding demand for higher education in Africa, and considers strategies to increase student access without compromising on quality.

Professor Etienne E. Ehile,
Secretary General, Association of African Universities

" The enormous task ahead, given Africa's huge youth bulge, requires that all key stakeholders rally behind the AAU to jointly improve access to higher education in Africa."

In the words of the renowned Nelson Mandela: "Education is the most powerful weapon we can use to change the world". A particularly critical component of this weapon is higher education. It is nearly impossible to build and sustain a strong economy without producing a high level of knowledge and skills. Due to the importance of and high return on investment in higher education, student numbers continue to rise year on year.

During the UNESCO Conference on African Higher Education (November 2018, Johannesburg, South Africa), the UNESCO Chief for Higher Education, Peter J. Wells, explained that as student numbers explode around the world, there is a greater need for better quality tertiary education. Referring to UNESCO Institute for Statistics (UIS) 2017 data, he said that emerging economies will have around 63 million more university students by 2025, and the number worldwide is expected to more than double to 262 million by the same year. Massification – a quantitative expansion of African Higher Education – saw an increase in the number of African students from 5.6 million in 1999 to 13 million in 2014 (UIS, 2017). The question here is how to improve access to higher education, considering both the increase in student numbers

and dwindling government support to state/public universities, as well as the vital issue of quality in both public and private institutions.

Since Africa has a huge youth bulge in its population, the issue of access is very pertinent to the Association of African Universities (AAU). In addition, increasing access to higher education will further help to promote inclusive growth, ensuring that socially disadvantaged groups, brilliant but needy students and other such categories of people, are not marginalised and excluded in the development process. The AAU is also cognisant of the fact that an increase in access to higher education must be supported by strategies for job creation through vibrant industry-academia-government partnerships.

The AAU cannot randomly prescribe generic solutions to the whole continent on issues related to improving access to higher education. There is a critical need to collect data and real statistics on where exactly Africa is seeing its biggest need and demand for higher education, considering geographical and spatial distribution, distance and skills gaps per country. Factors limiting access – including financing higher education, absorption capacity and modes of delivery that restrict access – need to

> **"** Student mobility is one key means of increasing access to higher education."

be identified and properly analysed to help identify the best ways to reduce or eliminate their negative impact.

Student mobility is one key means of increasing access to higher education. Inter-Africa student mobility was 75 per cent between 2002-2012, and this gives hope to AAU that students can move from one country to another to pursue educational programmes, with the potential for receiving scholarships from their governments and other sources.

Certain institutions in some countries have fewer students than their capacity, while others receive applications from students in excess of their capacities. AAU and other higher education players in Africa need to work together to identify such scenarios and level them out, to increase overall access. The AAU is already coordinating with key stakeholders on the recognition of qualifications, diplomas and certificates from different African countries through the Harmonisation of African Higher Education Quality Assurance and Accreditation (HAQAA) initiative.

The AAU has another key role to play in steering higher education trends towards virtual, open and distance learning (VODel), through capacity building workshops, education and awareness, so that

institutions can maximise their use of the available ICT tools and reach out to many students who are unable to enrol in traditional institutions. Employing virtual lecture rooms and laboratories, simulations, YouTube videos, social media platforms, webinars and teleconferencing and other similar initiatives, are all key means of increasing access through the VODel modes.

It is, however, important to have a strategy and plan in place to deal with the challenges associated with VODel, including lack of technical know-how, irregular power supply, intermittent, slow and expensive internet supply and inadequate ICT equipment, among others.

On another note, since higher education has to play a more central role if Africa is to rise above its challenges and achieve the aspirations of the African Union's Agenda 2063, African governments will have to prioritise higher education within their budgets for public spending. Higher education institutions are also obliged to make efficient use of their allotted resources to ensure that waste in the system is minimised, and access is optimised.

Beyond public financing, higher education institutions need to intensify efforts to diversify their incomes, to

generate more funding for supporting the drive to increasing access. The need for more partnerships and joint ventures among higher education institutions and other key stakeholders such as industry, is critical.

Increasing higher education access need not be a reason to compromise on quality. In this regard, AAU, in conjunction with the African Union Commission (AUC), the national and regional quality assurance bodies and ministries of higher education in all African countries, are already working on several quality assurance enhancement related issues. These include improving quality assurance and building a quality culture in all modes of delivery, especially in VODel, through various initiatives such as capacity building workshops, and working with higher education institutions to establish quality assurance units.

The role of AAU in improving access to higher education in Africa cannot be overemphasised. The enormous task ahead, given Africa's huge youth bulge, requires that all key stakeholders – including African governments, international organisations and industry – rally behind the AAU to jointly achieve this goal, through partnerships, financial and other forms of support. ■

WORLD UNIVERSITY RANKINGS 2019 TOP 800

Covenant University:
Renewing the Dignity of the Black Race

#WECANDEFENDOURGRADE

Covenant University is a private Pentecostal Christian University, which has been operating with official status since 2002 in Ota, Nigeria. The University is one of the leading universities in Africa found on Christian Mission Ethos. Born and driven by a vision to raise a new generation of leaders and to reinstate the dignity of the black race, the University is committed to remain at the cutting-edge of learning that is based on enlightening the Total Man. The university has four colleges that has had a rapid rise in reputation in the decade and a half of operation. These include reputation in social responsibility, learning, scientific integrity and research in the public interest. This growing reputation has been endorsed by several reputable institutions and organizations. For instance:

- The Nigerian Universities Commission (NUC) named it the best private university in Nigeria in its 2018 rankings
- According to the Times Higher Education, Covenant is cumulatively West Africa's leading University in Research, Industry Partnerships, International Outlook, and Teaching
- Covenant ranks No.1 University in Nigeria (THE, 2019)
- Covenant ranks No. 1 University in West Africa (THE, 2019)
- The University is No. 6 University in Africa (THE, 2019)
- In the most recent (2019) THE SDG impact ranking, the university ranks: between 101+ and 301+ in eight (8) of the 17 sustainable development goals respectively
- Among the top 3% of all universities in the world
- No.1 Nigerian University with the most employed graduates (STUTERN).

Research is central to the twin missions of Nigeria's Covenant University to offer solutions to society's big problems and to be a leading, global educational institution. These ambitions are intimately linked and the innovations that have grown from them have benefited the health, economy and political processes of the country as well as bringing increasing prominence to CU.

The University's Centre for Research, Innovation and Discovery leads in disciplines that promise significant advances for society, such as bioinformatics, while at the same time it is growing capacity in scholarship, community development and industrial relevance.

The unique funding arrangements of the institution ensure its long-term commitment to the welfare of society. The University is near a self-sustainable status, from research grants and industry endowments. A good and recent instance is a $6-million-dollar grant that the University won from the World Bank for research on Applied Informatics and Communication, under the aegis of the African Center of Excellence (ACE-Impact) scheme.

Projects are chiefly targeted towards solving global problems of food security, climate change, waste management, electronic governance and business, as well as poverty eradication. Although these are "big picture" challenges, there is a local aspect to each issue, which provides relevance and impetus.

Covenant University
RANKED =151st
THE WORLD UNIVERSITY RANKINGS EMERGING ECONOMIES
www.thewur.com

Covenant University
RANKED 501–600
FOR ENGINEERING & TECHNOLOGY
THE WORLD UNIVERSITY RANKINGS 2019
www.thewur.com

a. African Development Bank (AfDB – Coding for Employment)

The AfDB after a rigorous selection process in 2018, identified Covenant University as one of its Centers of Excellence for executing the Coding for Employment (CfE) Project. The CfE 10-year project aims at equipping youths across Africa with skills needed to secure ICT related employment and businesses. The project expects to create over 9 million jobs, train 234,000 youths.

b. Collaboration with UNESCO on Futures Literacy

In 2018, Covenant and the UNESCO foresight team agreed to collaborate on 'wind tunneling' of a range of Future Literacy Laboratory prototype designs concerning action research, action learning, and initiation at Covenant. The Senior Investigator of the process Dr. Ada Peter, who delivered a talk at UNESCO headquarters in Paris, underlined how Covenant is giving deep thoughts to the arts, science, and meanings of development in Africa. She also hinted how Covenant now seeks to build, strengthen and instill complex problem-solving skills and useful futures literate leadership decision-making practices into public sector decision making and implementing processes beginning with the next two electoral governments (2019 -2023) and (2023 -2027).

The remarkable aftermath of the Covenant /UNESCO collaboration is an FL and complex problem-solving hub. The hub expects to grow the necessary human capital in individuals who will have the mandate to accomplish the following goals

✓ Enhance Nigeria's country-level policymakers' capabilities to use different futures to discern system boundaries, relationships, and emergence;

✓ Enhance Nigeria's country-level policymakers' capabilities to invent and detect changes in the conditions of change and to critically assess the assumptions used to understand the present.

✓ Advance the capacity of Nigerian policymakers to innovate and effectively address complex problems in the country

c. Collaborations with other Universities

Covenant added and renewed in 2018 collaborations and active partnership with other reputable tertiary institutions including MIT, USA, Sciences Po, France, EPITA, France, Centrale Nantes, France, Hanze University, Netherlands, North-West University, South Africa, University of Ghana, Ghana, University of Kwazulu-Natal, South Africa, Tshwane University of Technology, South Africa, and University of Johannesburg among others.

It is also imperative to mention some significant events at Covenant in 2018 First, Covenant University early 2018 won the bid and hosted 12 Silicon Valley Tech Women (from Twitter, Netflix, LinkedIn, Mozilla, US Navy, Northgate, Fairrer Samani, Autodesk, and Juniper Networks) at Covenant.

Conclusion

Though the best University in Nigeria and the 6th in Africa now, the university is strategically pursuing the goal of becoming one of the global top ten universities in 2022. It is also important to high spot Covenant as a revolution in education, fashioned in the likeness of world-renowned institutions like Harvard, Yale, Princeton, and Duke. Covenant's departure philosophy and pillars are deeply rooted in Biblical principles and are directed towards effecting change in the recovery process of Nigeria's education sector and the restoration of the dignity of the Black man. The Chancellor, Dr. David Oyedepo, will reiterate that the vision is to establish a faith-based university committed to raising a new generation of leaders in all fields of human endeavor.

HIGHER EDUCATION IN INDIA
Managing the sector's unprecedented expansion

N.V. Varghese, at India's National Institute of Educational Planning and Administration (NIEPA), describes how the rapidly growing higher education sector in India has brought enrolment opportunities to a record number of students, but also necessitated interventions to alleviate inequality of access and quality concerns.

Prof. N.V. Varghese,
Vice Chancellor, National Institute of Educational Planning and Administration, India

" With over 900 universities, 40,000 colleges, 1.3 million teachers and 36.6 million students in 2017-18, Indian higher education is the second largest system in the world."

In the recent past, the higher education sector in India has experienced an unprecedented expansion, leading to massification of the system. It took the three decades up to 2000-01 for gross enrolment ratios (GERs) to double from 4.2 to 8.1 per cent. However, it took half this time to treble the GER to 25.2 per cent, by 2016-17. In this century, the number of universities has more than trebled, the number of colleges nearly quadrupled and student enrolment increased by more than 4.5 times. With over 900 universities, 40,000 colleges, 1.3 million teachers and 36.6 million students in 2017-18, Indian higher education is the second largest system in the world. Given the youth bulge and demographic dividend, its potential to expand to emerge as the largest higher education system in the world is not a distant reality.

Following economic reforms in the early 1990s, the higher education sector in India adopted market friendly changes that included the privatisation of public institutions and promotion of private institutions. The privatisation measures included a reduction in subsidies, introduction of cost-recovery measures and income generating activities. To encourage the private sector the Indian Government enacted laws to permit the operation of private universities, and several were established in the 2000s. At present, private institutions account for more than 60 per cent of institutions and student enrolments. The private sector is more active in offering technical and professional courses at the undergraduate and diploma levels, as well as in the non-university segment of higher education in India.

However, the market permeation and massification of the sector is accompanied by persisting inequality in access to higher education, and regional inequality in the distribution of institutions has also widened. The states with a high share of private institutions tend also to have a high concentration of higher education institutions. For example, Telangana, which has a high share of private institutions, has 51 higher education institutions per 100,000 of the population, whereas the equivalent figure in Bihar, which has a lower share of private institutions, is only seven.

Social inequality in access to higher education also remains high, with GER among disadvantaged groups being relatively low. Some deprived groups are improving faster than others, and the Other Backward Classes (OBCs) have gained more of a share of total enrolment, although this is at the cost of non-disadvantaged groups.

It seems that the benefits of massification are more equally apportioned between the sexes, as the disparity in share of enrolment between males and females has narrowed. Females now account for 47.6 per cent, and the gender parity index (GPI) is 0.97 per cent. In fact, GPI in some Indian states, such as Kerala, where GER is around 36 per cent, is more than unity at 1.26. It can reasonably be argued that unlike in the school sector, India will achieve gender parity in higher education enrolment at lower levels of GER, of around 30 per cent.

India established external quality assurance agencies (EQA) and accreditation mechanisms in the 1990s. The National Assessment and Accreditation Council (NAAC) accredits institutions (universities and colleges) and the National Board of Accreditation (NBA) accredits technical higher education programmes. However, the progress made in accreditation has been slow – only one-third of universities and one-fifth of colleges are accredited. The institutional arrangements for accreditation need to be strengthened, and in recognition of this the University Grants Commission (UGC) is proposing to create more agencies to fast track the process of accreditation.

India's position in the world ranking of universities is low. In 2015, the country established its own national rankings – the National Institutional Ranking Framework (NIRF) – since published in April 2016, 2017 and 2018. The NIRF ranks separately for four categories of institutions: universities and colleges, engineering, management and pharmacy colleges. In general, the public higher education institutions occupy the top positions in the rankings.

India is planning to develop 20 Institutions of Eminence (IoE) to improve its position in global rankings. In 2018, an expert committee identified six potential IoE institutions – three of

which are in the public sector, and three in the private sector. These institutions will enjoy a high degree of autonomy and the selected public institutions will receive additional funding of ten thousand million Indian Rupees.

Under new 2018 regulations, universities are now granted graded autonomy based on the scores obtained in EQA assessment and accreditation. Category One and Two universities are granted full autonomy, while those in Category Three are subject to more controls and regulations by public authorities. In March 2018, the UGC granted autonomy to 60 higher education institutions under this scheme.

A new government agency, the Higher Education Financing Agency (HEFA), has recently been established to finance higher education institutions through interest free loans from a commercial bank (Canada Bank), to invest in improving infrastructure and research facilities.

The Open University system in India has existed for more than three decades, and there are currently 18 open universities and 220 dual mode institutions offering distance education courses. The technology-assisted learning facilities are widening opportunities for pursuing higher education among a diverse population. India has developed a

Massive Open Online Course (MOOC) online course platform, hosted by SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), one of the largest online free e-learning portals. India also has provision for 32 direct-to-home television (DTH) channels, devoted to telecasting of high quality educational programmes on a 24x7 basis. Furthermore, each university is expected to offer 20 per cent of course credits through courses available on the SWAYAM portal.

The major challenge facing higher education in India is providing affordable higher education in a market mediated framework. The second challenge is how to maintain quality in an expanding system. The high incidence of unemployment among higher education graduates raises questions about the credibility of degrees and their reliability as indicators of learning outcomes.

Another challenge is addressing the issue of student diversity. Many new entrants to higher education institutions are first generation learners, belonging to disadvantaged groups from remote locations, and mostly only proficient in regional languages. Addressing student diversity, both for academic integration in the classrooms and social inclusion on the campuses, needs to be done with empathy. ∎

❝ The major challenge facing higher education in India is providing affordable higher education in a market mediated framework. ❞

AUSTRALIA'S INTERNATIONAL EDUCATION SECTOR
Showcasing the benefits of global education

Dan Tehan, Australia's Minister for Education, explains how welcoming students from other countries to study higher education in Australia has provided enormous benefits to the students, the institutions and to the country as a whole.

The Hon Dan Tehan MP,
Minister for Education, Australia

❝ The sector is now worth more than AUS $32 billion to the Australian economy, up AUS $5 billion from the previous year."

The parents of international students who come to Australia to study all want the same thing for their children – a good education informed by a strong sense of values, and the opportunity to fulfil their individual potential. This is the principle that must underpin everything we do in international education, and we must continue to focus on the student experience and the wellbeing of each individual who chooses to learn in our country.

The success of our international education sector has been a key achievement in education, and it also provides enormous benefits to Australia. According to new figures, the sector is now worth more than AUS $32 billion to the Australian economy, up AUS $5 billion from the previous year. Recent estimates suggest it supports more than 240,000 jobs. This financial input allows universities and other institutions to invest in research and infrastructure, build capacity, and develop services

that benefit all students and the broader community. But the sector is about so much more than economics.

Over decades of investment, hard work and the commitment of world-class scholars, teachers and administrators, we have established a global reputation as an education leader. Australia is now the third most popular destination for international tertiary students, after the US and the UK. However, the British-based Centre for Global Higher Education predicts that this year, Australia will leapfrog the UK to become the world's second most popular destination for international students.

Almost two thirds of Australian universities (28 out of 43) are ranked in the top 500, according to the latest global rankings of universities. Together, they have more than 9,000 formal agreements with foreign universities, including more than 1,400 with Chinese universities and almost 1,000 with American universities. Excellence in Research Australia

The School of Medicine, University of Western Sydney. Almost two thirds of Australian universities are ranked in the top 500 universities around the world.

found that every Australian university is world-class or world leading in at least one area of research.

Similarly, with our vocational education and training (VET) sector, Australia is recognised as a trusted and world-class provider of VET. There's also an increasing number of Australian VET providers delivering Australian VET qualifications overseas, as well as a growing range of non-formal qualifications. For instance, the Indonesia-Australia Comprehensive Economic Partnership Agreement will see greater opportunities for both countries in developing highly skilled workforces.

Recently, there has been significant efforts to open up new education and knowledge partnerships that will bring great benefits to Australia, including the signing of the Memorandums of Understanding on VET with Vietnam in 2018, and Argentina and China on VET in 2017, as well as the establishment of a new Education Counsellor position in Mexico in 2018.

" Australia is now the third most popular destination for international tertiary students, after the US and the UK. "

This highlights the important benefits of a growing diversity within the sector of our top ten partner countries.

There is no doubt that diversification of our partnerships enriches and deepens the experience for international students and for our own communities, as we learn about cultures and countries, share knowledge and build a broader range of relationships and friendships.

To confirm Australia's position as a world leader in international education, preliminary data from the Australian Government's 2018 biennial International Student Survey of over 84,000 international students highlights the high levels of student satisfaction with their Australian experience.

At a national level, 89 per cent of international university students and 87 per cent of international VET

students reported that they were satisfied with their overall study experience in Australia.

Higher scores were reported by international students in private higher education – 91 per cent – and English Language Intensive Courses for Overseas Students (ELICOS) – 90 per cent.

Students reported high levels of satisfaction with their learning experience, and with the support received both on arrival and while studying. They also reported being very satisfied with their experience of living in Australia.

Our Government has supported this growth in student satisfaction, with AUS $3 million allocated to the implementation of the National Strategy for International Education 2025. This includes projects that

63

2.5 million international alumni who studied in Australian universities will go on to become leaders in government and industry in their home countries.

support the student experience, communicating the benefits of international education, and developing a nationally consistent approach to marketing and branding of international education. One important aspect of our improvement is expanding diversity – of study choices, location, partner countries and course offerings – to make for a stronger, more resilient and sustainable sector into the future.

The global education experience benefits us all through enhanced links across business, trade, investment, diplomacy, research and culture.

There are more than 2.5 million international alumni who have studied in Australian universities and will go on to become leaders in government and

industry in their home countries.

As a rural Member of Parliament, we need to enable regional Australia to be a greater part of the international education story. The international student cohort that comes to Australia should have the opportunity to experience a different Australia – to live and study in our regions, to see the bush, to meet people from rural, regional and remote parts of the country, and to build friendships.

A great example is Cairns, where more than 32,000 international

// The global education experience benefits us all through enhanced links across business, trade, investment, diplomacy, research and culture."

students from more than 30 countries study each year. Many local families open their homes to students on short and longer-term stays, and the Cairns Student Hub ensures international students experience a strong sense of belonging and connection to the local community through engagement and relevant support.

We must ensure that Australia's international education sector continues to grow, to thrive and be recognised for its world-class excellence and leadership. ∎

AN INTERVIEW WITH…

Professor Victor Ngonidzashe Muzvidziwa, Vice Chancellor, Midlands State University

Professor Victor Ngonidzashe Muzvidziwa has been at the helm of Zimbabwe's Midlands State University (MSU) since October 2016. A respected academic and published scholar, Professor Muzvidziwa also has vast experience of tertiary education administration and management. In this short interview, we discuss his vision for MSU and how the fast-growing institution aims to contribute to the industrialisation and modernisation of Zimbabwe.

Q: A key element of MSU's vision is to be a development-orientated university that produces graduates that will contribute to the empowerment of society and the creation of wealth in Zimbabwe. How are you achieving this?
A: We have developed flagship programmes aligned to the development agenda of our country in agriculture and mining, specifically focusing on semi-arid areas and promoting the mining value chain. In addition, we have stepped up the generation of various forms of intellectual property through innovative research. The prototypes will be tested and then incubated in our new Innovation and Incubation Hub. The overall aim is to commercialise Intellectual Property.

Q: How is the university developing its curriculum and infrastructure to reflect current and future global challenges?
A: MSU has been continuously rebranding its academic programmes to keep pace with developments in the local and global labour markets, especially the ever evolving skills inspired by changing trends in the ICT sector. We keep abreast of the skill requirements of our economy without ignoring the global context, particularly through a synergistic relationship between the university and industry. We have infused entrepreneurial training in our curriculum to stimulate job creation. The past few years have seen unprecedented investment in teaching, learning and accommodation facilities, and a robust ICT infrastructure.

Undoubtedly, global challenges such as climate change, access to clean water, health issues and the status of women, among others, will remain with us into the future. We have established research institutes such as the Gender Institute and Tugwi-Mukosi Multi-disciplinary Research Institute. These institutes seek to proffer solutions to the nation's development challenges.

Q: How is the university embracing the use of ICTs in its teaching and research?
A: We have achieved an almost 1:1 computer-student ratio through the "Bring your own device policy" complemented by over 20 e-resource centres located in our three campuses. Our IT Department has developed e-learning technologies and platforms to facilitate quality and effective teaching and research and we have continuously invested in bandwidth expansion. Barring escalating costs, significant progress should be made in creating smart lecture rooms.

Q: What are your ambitions for the university over the next five years?
We have three principal ambitions for the university over the next five years:

- Mobilise financial and human capital and invest in infrastructure to support an anticipated student enrolment of 35,000 - spread over 10 faculties - by 2023;
- Turn MSU into a research intensive institution in order to generate problem solving innovations;
- Improve the university's international ranking and establish value adding networks in order to remain relevant to our communities.

Q: How and why are you prioritising collaboration with research partners, industry and other institutions?
A: MSU has a longstanding relationship with industry and corporates through our Work-Related-Learning programme, memoranda of understanding and collaborative relationships with academic and research institutions locally, regionally and internationally. We jointly bid for research grants with local and international partners. This is a matter of priority for us since we need to leverage technical expertise that we may not have. Collaborations provide opportunities for internationalisation - strengthening ties with the labour markets and promoting research and development. Resource mobilisation is critical where public funding is in decline; collaborations are a priority in our case.

MAXIMISING GLOBAL CONNECTIONS IN HIGHER EDUCATION

Professor Jo Beall, Chair of the Going Global Steering Committee, explains how international higher education is about much more than student mobility and that global connections are fundamental to universities in societies today, and crucial to their place in society tomorrow.

Professor Jo Beall,
Chair, Going Global Steering Committee, and former Director of Cultural Engagement, British Council

" International students bring new outlooks, ideas and knowledge and broaden the university experience for domestic students. "

Universities and higher education institutions (HEIs) are generally held to have three core functions: knowledge production and generation – referring to the generation of knowledge through research, technology and innovation; knowledge sharing and development – being the creation of curricula and delivering teaching to develop the understanding and skills of students; and knowledge dissemination and engagement – engaging with industries, businesses and society including civic engagement with their local communities.

Yet in today's world it is difficult to imagine HEIs without also considering international engagement – in research, teaching and in their engagement with society. Indeed, global connectivity is central to most of what contemporary universities do, and it can benefit the nations, cities and the local regions of which they form a part.

The benefits of international student mobility are well documented, including for the individual, the institution, the host country and the source country. In the UK, around one university student in every five is from abroad with many coming from Commonwealth countries. These international students bring new

outlooks, ideas and knowledge to UK campuses; they broaden the university experience for domestic students, help to sustain and enrich UK courses, have a positive impact on local communities and economies, and take UK connections, cultural understanding and trust back to their own countries.

It is no wonder that many other countries have also developed coherent, cross-government strategies to support student mobility into their higher education systems, setting ambitious recruitment targets as part of their efforts to attract growing numbers and quality of international students.

Commonwealth countries with initiatives to increase and support international student mobility include Australia, Botswana, Malaysia, Mauritius and Singapore. Others, such as Ghana, Kenya, Nigeria and Pakistan have taken steps towards developing such policies, and Brunei and South Africa have recently been drafting international education strategies.

Often, such government initiatives are in response to the will and determination of HEIs in their countries. For instance, the International Education Association of South Africa (IEASA) is a proactive association of HEIs that work together to ensure their country is responsive to

international education trends, while also providing opportunities for students in South Africa to obtain a global perspective in their studies.

But international mobility and exchange is not confined to students alone. Staff and researcher mobility is also increasing. International programme and provider mobility (IPPM) and Transnational education (TNE) are growing phenomena both in scale and scope. More countries, institutions, staff and students are engaging in an increasing variety of models of cross-border education.

HEIs in Australia and UK are deeply engaged in IPPM/TNE. Over 700,000 students now access UK higher education courses outside the country – more than the number of international students in the UK at any one time. Over 50,000 students in Malaysia are studying UK higher education courses, and several other Commonwealth nations (including Singapore, Sri Lanka, Pakistan and Trinidad and Tobago) have more students studying for UK qualifications at home compared to those based within the UK itself.

IPPM/TNE has been demonstrated to have many benefits for students, institutions and the countries involved. It can make an international education more accessible to a wider range of students, thus developing the global awareness and international knowledge of these students, as well as strengthening valuable skills including creativity, critical thinking and language skills. Subsequently, it also supports local employers and the wider social and economic community.

International collaboration in delivering coproduced and taught education programmes can help to build capacity and capability in all partner institutions, while helping to raise or embed local quality standards for higher education. IPPM/TNE can be a conduit for student and staff mobility and serves to support and facilitate movement in both directions.

A number of Commonwealth countries, including Botswana, Malaysia, Mauritius and Singapore, have actively encouraged the development of

❝ It is no wonder that many countries have developed coherent, cross-government strategies to support student mobility into their higher education systems.❞

International engagement is good for students, the institutions they attend and the societies in which they are based.

Credit: British Council

IPPM/TNE partnerships in their quest to establish themselves as international higher education hubs or 'gateways'. This has been fostered by recognition at a national level of the developmental power of global higher education collaboration.

And beyond teaching and learning, there are a number of known institutional benefits from international collaboration in research. Internationally mobile researchers are more productive; The Royal Society reported that research produced through international collaboration is of a higher quality and has greater impact; when appropriately managed, international collaboration in research and doctoral training can support capacity building; and through working together, universities can find global solutions to today's global problems.

Through the mobility of students and scholars, and international collaboration in teaching and research, universities are raising their quality and increasing their impact and relevance locally and nationally. International engagement is fundamental for the progress of HEIs, but these organisations, in turn, are vital for delivering on our shared global responsibilities and the opportunities that await an integrated international community of scholarship. It is here that the Commonwealth has a particularly vital role to play. ∎

REGULATING AND ACCREDITING HIGHER EDUCATION

Kofi Nkrumah-Young, at the Association of Caribbean Higher Education Administrators (ACHEA), explores the concepts of accreditation and regulation in higher education and considers the question of responsibility; should these functions be performed by the same institution?

Dr Kofi Nkrumah-Young,
Past President and International Liaison Officer, Association of Caribbean Higher Education Administrators

" Unlike accreditation, which has the aim of revealing results, regulation serves to control outcomes."

The University Council of Jamaica (UCJ) defines higher education accreditation as "the status granted to a programme or institution that has been found, through self-study and peer review, to meet or exceed established standards for educational quality". It also makes the point that accreditation is voluntary. This UCJ definition concurs within US Legal which states that "accreditation is the act of granting credit or recognition to educational institutions that maintains suitable standards".

These definitions infer that accreditation is awarded where only minimum standards in higher education are reached. Participation in the assessment exercise is voluntary, although governments have linked funding to positive results, as they steer providers in the desired directions. In Trinidad and Tobago, the Government Assistance for Tuition Expenses (GATE) policy, which pays tuition fees for students attending institutions that are accredited by the Accreditation Council of Trinidad and Tobago (ACTT), is one such case. In the US, the Federal Government is not involved in the accreditation process, but the Secretary of Education is mandated by law to publish the names of institutions accredited by recognised accreditation agencies. The relevant students may then access Federal grants and loans.

There is also the issue of programmatic, versus institutional, accreditation. Some believe that institutional accreditation is superior to programmatic accreditation, although others emphasise that institutional accreditation is more concerned with the performance of the institution in general, with input resources such as staff qualifications, research activities, student intake and learning facilities. It is argued that, in Europe, where higher education is provided primarily by governmental agencies, there is little need for institutional accreditation. In the US, on the other hand, where there are many private providers, "accreditation is a self-regulatory process of recognition of institutional viability by nongovernmental voluntary associations" (L Harvey, 2004). Conversely, Harvey believes that programme accreditation tends to focus the design of curricula and content of specific programmes and how those programmes use specific resources. Programme accreditation is regarded mainly by professional bodies, and concentrates on the suitability of graduates to enter professions. Neither institutional nor programmatic

accreditation is therefore superior to the other. It depends on the use of the information, as the former conveys information about the institutional system and the latter, about the performance of disciplines within the institution.

Unlike accreditation, which has the aim of revealing results, regulation serves to control outcomes. Orbach (2016) cites Black's definition, which states that regulation is "the act or process of controlling by rule or restriction". The Higher Education Authority in Ireland (HEA, 2017) further notes that regulation, "means the system of statutory and administrative rules and requirements placed on higher education institutions, the performance of which the HEA has responsibility for enforcing or reviewing".

Taken from the National Council of State Boards of Nursing (NCSBN, 2012), the differences between accreditation agencies and regulators are highlighted in the table below.

Accreditation Agencies	Regulators
Assess quality	Evaluate and enforce
Lack statutory authority to impose penalties if standards are not met	Legal authority to improve penalty
Do not grant permission to operate	Grant licences
Voluntary participation	Compulsory participation

Australia, the UK and US provide examples of three different models of how regulation and accreditation are related in higher education. In Australia, the Tertiary Education Quality and Standards Agency (TEQSA) is responsible for both the regulation and accreditation of higher educational institutions (HEIs) and their programmes. This approach is designed to strengthen the quality assurance processes, improve accountability and ensure performance base monitoring of the HEIs.

The UK's Quality Assurance Agency is independent of the regulatory agencies, and the funding agencies have evolved from being responsible only for funding into being regulatory agencies, and separate from the quality assurance bodies. Fry (2015) notes that: "Since 2013, we have been increasingly also involved in conducting checks and collating information about financial sustainability, governance and management and course checks that the Department for Business, Innovation and Skills (BIS) uses to make decisions about designating courses at alternative providers so that students can gain access to student support. These activities and functions are part of what forms the operating framework, with many other organisations, not least government, being part of this regulatory environment."

In the US, there is no regulatory agency for higher education. Picciano (2013) states that: "American higher education has relied extensively on evaluation by independent accreditation agencies approved by the Federal Department of Education". It is suggested that given the rise of degree mills and susceptibility to fraud on the public, particularly with the rise of online providers, there is a need for more regulation of higher education in the US.

Accreditation provides information but does not penalise for failure. The purpose of regulation is to influence rather than merely report performance against minimum standards. Regulatory agencies must depend on information from the accreditation process to decide on appropriate action to influence the conduct of higher education providers. Jarvis (2014) notes that: "Quality assurance regimes have become an increasingly dominant regulatory tool in the management of education sectors around the world".

Australia, the UK and US have different ways of dealing with the relationship between higher education accreditation and regulation. Australia deemed that by implementing an independent agency with the authority to act based on the information from the assessment exercise was the best approach to achieve desired results, meet its strategic goals in higher education and ensure value for money.

The laissez-faire approach of the US seems unsuitable for small states, such as those in the Caribbean, because it could threaten the sustainability of the indigenous HEIs. In the UK, where regulation and accreditation are performed by separate independent agencies, there is a recognition that there can be more effectiveness if regulators are compelled to use information from the assessors.

My home country of Jamaica has been stuck in a time warp in deciding on how to regulate higher education since 2011. At the time, the Ministry of Education decided that there should be one body to regulate and accredit HEIs. Thereafter, the proponents of separation of these functions argued for them to be performed by two separate institutions. The Jamaica Tertiary Education Commission was charged with the responsibility of regulating HEIs, while the UCJ was to continue the role of accrediting such bodies. Evidence suggests that for Jamaica, there is a good basis from which to adopt the Australian approach of using one agency to regulate and accredit HEIs. Currently, there are indications that there will be legislation promulgated to have both functions performed by one agency. ∎

// Accreditation provides information but does not penalise for failure. The purpose of regulation is to influence rather than merely report performance against minimum standards. Regulatory agencies must depend on information from the accreditation process to decide on appropriate action to influence the conduct of higher education providers."
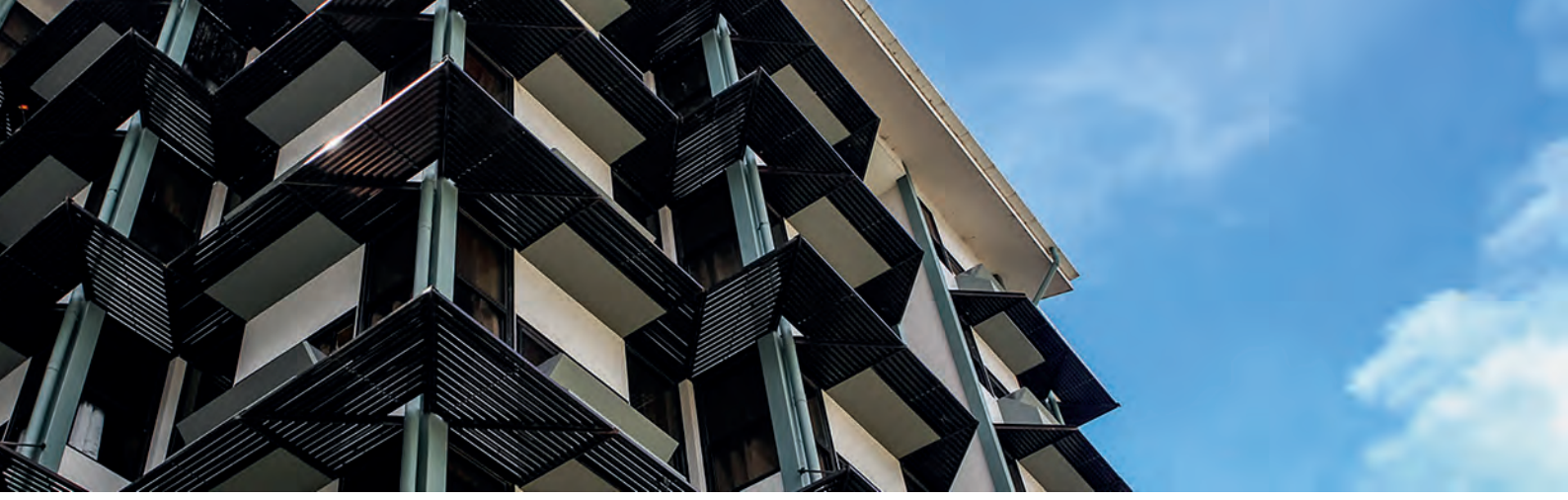
THE UNIVERSITY OF GOROKA
Creating the Future

Mission

To transform lives, organisations and communities in the Pacific and beyond, through its wide range of quality educational programmes, highly skilled and experienced staff and inspirational graduates.

Vision

To be Papua New Guinea's leading university, committed to the development of a climate of excellence, recognised as a source of innovation in teaching and learning and to lead the region in research, scholarship and community development towards nation building.

History

The University of Goroka is the third largest of the six universities in Papua New Guinea and is by far the largest teacher education institution in the country.

The University was formed in 1997 from the merger of two faculties of the University of Papua New Guinea, Goroka Teacher's College and the Faculty of Education. Integration and expansion in Goroka has allowed each of their programmes to be rationalised and improved.

Professor Musawe Sinebare (PhD)
Vice Chancellor

Message from the Vice Chancellor

"I am pleased to introduce you to the University of Goroka. As one of Papua New Guinea's oldest teacher training institutions, we have a 50 year tradition of excellence in teaching, learning and research, with our transition from a teachers' college to a fully-fledged university.

"The University of Goroka offers a conducive learning environment where you will enjoy a perfect mixing of high educational standards, pristine mountain air and scenery from the Humilaveka hills, and an outstanding collegiate lifestyle.

"As we celebrate 20 years of our university status, University of Goroka will continue to strive to be the best institution in the country and the Pacific region, playing a significant role towards human capital development, in terms of teacher education and professional training.

"To fulfil the Government's dream of a 'Happier, Healthier and a Wiser' Papua New Guinea by 2050, the University of Goroka is proud to align itself with the core values of the PNG Vision 2050."

Creating the Future

The creative initiatives of our fore bearers are what we have seen over the first twenty years of this institution being a university. Our current initiatives will be realised by the future generations. It is our uncompromising responsibility to create a better future for those who come after us.

Looking Ahead

The university's vision for the next 20 years is to continue to diversify the development of the academic programmes across various disciplines, and to develop new schools in area such as Business and Management, Medical Health Sciences, Tourism and Hospitality and TVET.

Similarly, under our current arrangement with the country's Department of Agriculture and Livestock the University is expected to have the rights to land at Menifo to develop separate campus and a School of Agri-Business and of Small and Medium-Sized Enterprises.

The prospect of the Menifo land being made available to the University of Goroka is a golden opportunity not to be missed under our concept of building a 'University City" over the next 20 years.

www.unigoroka.ac.pg

TVET FOR SKILLS DEVELOPMENT AND WEALTH CREATION IN AFRICA

Alhaji Mas'ud A. Elelu, Chairman of The Commonwealth Association of Technical Universities and Polytechnics in Africa (CAPA), describes how TVET must be enhanced and strengthened in order to be an effective instrument for economic development across Africa.

Alhaji Mas'ud A. Elelu,
Chairman, The Commonwealth Association of Technical Universities and Polytechnics in Africa, and Rector, Kwara State Polytechnic, Nigeria

> **"** Empowering youths with practical job skills is imperative for minimising the negative sociopolitical and economic consequences of joblessness."

Youth unemployment, poverty, social unrest and insecurity are among the most pressing challenges facing many African countries. The scourge of poverty and unemployment has ravaged almost all nations of the world in different dimensions and shades, but youth unemployment and its attendant rising wave of crime are often responsible for the major social problems affecting developing countries. Empowering youths with practical job skills is imperative for minimising the negative sociopolitical and economic consequences of joblessness, and this is only achievable through Technical and Vocational Education and Training (TVET). It is pertinent to state that for TVET to achieve its multiple objectives, it must be enhanced and strengthened adequately. Symptoms of the need for urgent intervention include mismatch between supply and demand for skilled labour, employer complaints and low employment rates for graduates. Causes include lack of information about demand, lack of comprehensive labour market information systems (LMIS) and employer involvement in the various phases of training, and rigid supply

responses by public training providers.

Overall access to skills acquisition is low in relation to the number of potential clientele. High educational entry requirements exclude the majority of youths and young adults, and in addition, the poor cannot afford the costs of the long courses (1–2 years). Participation by women and girls is relatively low in TVET, and concentrated in female-dominated occupations. Several externally financed projects are seeking to rectify the lack of female access to TVET in a number of African nations, including Commonwealth Association of Technical Universities and Polytechnics in Africa's (CAPA) Women in Technical Education and Development (WITED) programme. Geographical imbalances also exist – with low enrolment in rural and low-income areas. Vertical mobility is also blocked in some types of TVET.

There is a need to make TVET an instrument for economic development. This was the thinking behind the recent launch of the Industrialise Africa Now campaign by CAPA at its 40th anniversary conference, and is a first step towards explicitly linking the TVET subsector and institutional

CAPA Executive Board members and special guests in Nairobi, Kenya, July 2017.

development plans to industrialisation and economic development strategies in African countries. Africa must build high level technical skills needed for higher value-added production. Given its labour force constraints, Africa needs to move up the value chain to sustain its development in the medium to long term. For TVET to take its rightful place in growing wealth and the social challenge of unemployment, governments must put in place strategies to: increase access and equity; reform TVET governance and management; and mobilise resources for skills development and use them efficiently.

If Africa is to achieve the continental TVET strategy, there is an urgent need for the Department of Human Resources, Science and Technology (HRST), to spearhead regional cooperation in TVET through available platforms such as CAPA. ∎

CAPA: 40 Years of Advocating for Technical Education and Skills Development in Africa

The Commonwealth Association of Technical Universities and Polytechnics in Africa (CAPA) was established in 1978, following a resolution of the 7th Conference of Commonwealth Education Ministers, held the previous year in Ghana. Its mandate is to support professional and skills development and to promote policy advocacy in favour of TVET. The CAPA headquarters is based in Nairobi. In 2015, the name of the organisation was revised from The Commonwealth Association of Polytechnics in Africa, to emphasise inclusion of a significant number of its members that had transformed to technical universities. Over the years, CAPA has grown to be a rallying point for educational institutions that have a focus and orientation towards technical / technological education and training. CAPA's vision is to be an influential voice and driver of initiatives in Africa for technical education and skills development; while its mission is to provide a dynamic forum to promote curriculum development, capacity building

initiatives, policy analysis and advocacy, research and innovation.

CAPA is committed to working closely with other similar organisations, governments and agencies, intergovernmental organisations, development partners, industry and other relevant stakeholders worldwide. The activities and services of CAPA to its members and stakeholders include:
• Capacity development through conferences, training workshops and seminars
• Curriculum review and development
• Benchmarking of curriculum and teaching facilities
• Staff exchange and fellowships
• Publication of the Scientific Journal of Technical and Vocational Education and a book series on issues in TVET
• Management and leadership training for managers of TVET institutions
• Organisation of TVET youth forums.

In light of resolutions made during the 2018 20th Commonwealth Education Ministers' Meeting in Fiji, and in marking

CAPA's 40th anniversary, the Executive Board launched its new strategic plan for 2018-2023 in August 2018. Ministers had noted with concern, the high rates of youth unemployment in rapidly changing job markets, and the increased numbers of young people entering labour markets with few or no skills for employability or entrepreneurship. In its new plan, CAPA will focus more on: strengthened continental TVET policy adoption with sharing of successful TVET programmes; the need to train youth with future skills for industrialisation (the Industrialise Africa Now campaign); the need to link the TVET curriculum with the Sustainable Development Goals; equitable access to appropriate pathways in TVET and lifelong learning for all; the re-energised Women in Technical Education and Development (WITED) programme to support entry of more women and girls into TVET; and providing space for learners to explore, analyse and engage with their environment through applied research.

Michael Okpara University of Agriculture, Umudike

Knowledge, Food and Security

The University was founded in November 1992 under the Nigerian Government's Federal Universities of Agriculture Decree and opened in May 1993 with just 82 students pursuing various courses of study.

At its inception, an initial six Colleges were established, growing to the current 11, alongside two further schools, the School of General Studies and the Postgraduate School.

There are presently fourteen Directorates of the University:

- Academic Planning
- University Research and Administration
- Molecular Biology and Biotechnology
- Entrepreneurship Development
- University Advancement
- Continuing Education
- Information Communication Technology

- Agricultural Extension
- Veterinary Teaching Hospital
- University Health Services
- MOUAU Nigeria Limited
- University Bookshop
- Gender and Child Development
- Revenue Generation

VISION

Under the motto: "Knowledge, Food and Security," Michael Okpara University of Agriculture, Umudike sees itself as a key vehicle for attaining the primary goals of Nigeria's '**National Agricultural Policy**' of "self-sufficiency in food and fibre" production with a vision to serve the country and humanity through processes that will lead to the alleviation of hunger.

MISSION

- To train students to become professionally competent and confident graduates.

- To create a generation of farmers capable of working under their own initiative.

- To develop environment-friendly technology for the benefit of farmers and to enhance the agricultural sector.

PHILOSOPHY

The University is anchored to the philosophy that the national development of Nigeria could be greatly enhanced through a properly integrated and coordinated agricultural education.

Therefore, the University strives to contribute to the country's strength by promoting self-sufficiency in food production as disseminated through teaching, research and training.

INFORMATION AND COMMUNICATION TECHNOLOGY

Through the ICT Directorate, the University's high-speed Wi-Fi network can be accessed campus-wide. Smart classrooms are also available there for e-Learning, alongside video conference rooms, an e-Library and an e-Test centre with over 450 PCs for computer-based training and examinations. The facility also oversees the e-Learning hubs located throughout the remaining University colleges, and a networked result processing hub within the ICT Directorate itself. Each classroom is equipped with an electronic whiteboard with sufficient bandwidth to enable collaboration with researchers across the globe. As the ICT anchor for the University, optical fibre cabling also links the Directorate with the major hubs of the campus, such as the Postgraduate School, Administrative Building and Entrepreneurial Centre, amongst others. These facilities improve the higher education experience for our students by broadening collaboration with other universities and harnessing the scientific and technological potential of e-Learning.

BAROMETERS

MOUAU admits its high quality students through the Joint Admission and Matriculation Board and via an internal screening process of the readiness, performance and engagement of the applicants. As a result of this process, the University has long been engaged in turning out a highly-skilled and competent graduate workforce across a wide variety of disciplines. Over three-quarters of the students educated by the University are gainfully employed upon graduation, thus achieving the targeted Sustainable Development Goal.

Whether it is a Bachelors, Masters or PhD degree course, our committed and effective educators guide students through "Preparation" and "Transition" phases, over four or five years, prior to final graduation. The exception is Veterinary Medicine, which requires six years of study.

The Michael Okpara University of Agriculture, Umudike benefits from a very serene environment for learning, and is able to provide ample and comfortable accommodation, both for homegrown and international students.

Rt Hon Lawal M Zayyana - Pro-Chancellor and Chairman of the Council

Prof Francis O Otunta, FNATE, FIIA - Vice-Chancellor and Chairman of the Senate

Prof Maduebibisi Ofo Iwe, CFS, FNIFST - Deputy Vice-Chancellor (Academic)

Prof Joy C Nwabueze, FNSA - Deputy Vice-Chancellor (Administration)

Mrs Jacinta N Ogwo-Agu, MNIM, MANUPA - Registrar and Secretary to the Council

Mr Joseph O Kalu, FCA - Bursar

Mr Uche Arua - University Librarian

www.mouau.edu.ng

TVET AND THE GREEN ECONOMY TRANSITION

Head of UNESCO-UNEVOC, Dr Shyamal Majumdar, examines the role of TVET in facilitating the transition to a green economy, stressing the need for TVET institutions to provide individuals with the right knowledge, skills and competencies that enable transformation and respond to the changing labour market.

Dr Shyamal Majumdar,
Head of UNESCO-UNEVOC

UNESCO's normative framework defines technical and vocational education and training (TVET) as comprising education, training and skills development. It relates to a wide range of occupational fields, production, services and livelihoods. Young people and adults acquire technical and vocational skills and qualifications through secondary, post-secondary and tertiary education, as well as through work-based learning, continuing training and professional development. TVET equips youth and adults with the practical knowledge and competencies that could enhance their contributions to the green economy, or conversely, increase their potential and vulnerability to cause further environmental impact.

The international community inspires a suite of debates on accenting economic development efforts with sustainability aspects. There is a strong push for countries, including those in the Commonwealth, to replace the 'brown economy' path with one that can adopt an integrated development agenda. The 'green economy' concept has been internationalised in many technical findings and reports from UN organisations. It is also a strong feature of the new Sustainable Development Goals. A green economy path is critical, particularly for countries that rank high in terms of environmental vulnerability, for example many Commonwealth member states, including small island developing states, that have an inherently lower resilience to economic or environmental disruption than others.

However, the new green economy agenda will not push forward without people at the centre of its design. In order for transition to occur, countries need to promote a change in mindset and develop the skills that lead to transformations.

When it comes to impact, the green economy is creating massive structural changes to the labour market. Some jobs are declining, others are being replaced or transformed, while new ones are being created. These shifts cannot be ignored. Planning for a successful transition to a green development path requires sufficient trained and qualified people in key technical vocations and areas, to perform jobs within new environmental regulatory standards. It needs to consider resource use within the environment's carrying capacity and design low-carbon emission activities. This development path could thrive in a milieu where environmental stewardship is evident and environmental responsibility is fully exercised in the workplace and in everyday life. The food, transportation

❚❚ In order for transition to occur, countries need to promote a change in mindset and develop the skills that lead to transformations."

and housing industries have high environmental impact in EU countries. According to OECD (2012), at least ten sectors were responsible for 90 per cent of CO_2 emissions in 2012, including agriculture, fishing, mining, electricity and gas, transport, as well as sectors providing auxiliary activities, to name a few.

Governments, businesses and societies are faced with the enormous task of raising awareness and developing new ways of working, which are needed to systematically shift from the business-as-usual approach. One such methodology for curbing commercial environmental impact is 'cleaner production'. UN Environment (UNEP), as cited by the World Bank, gives attention to the preventive nature of this strategy that is 'applied to processes, products, and services, to increase overall efficiency and reduce risks to humans and the environment'. In effect, its application transforms job profiles and processes.

Clean production demands that people are equipped with adequate knowledge and competencies acquired through training, retraining or upskilling in emerging technologies.

For this to work, companies and regulatory bodies will need to commit to transforming business ecosystems, adopt green measures and upgrade skills with the increased demand for green job competencies. Green skills and competencies are a determinant factor for the green economy to succeed; a lack of these could increase environmental risks and vulnerabilities.

TVET, in the context of lifelong learning, has a critical role to play. Technical colleges, polytechnics, upper secondary schools, as well as other training providers, are on the frontline of delivering the relevant skills required to make a successful transition to a green economy and develop resilience to changing job profiles. UNESCO, through the UNEVOC International Centre for TVET, advocates for building institutional capacities to create a new vision for, and develop skills to, initiate change. In the last three years, UNESCO-

" Technical colleges, polytechnics, upper secondary schools, as well as other training providers, are on the frontline of delivering the relevant skills required to make a successful transition to a green economy and develop resilience to changing job profiles."

TVET has a critical role to play in our transition to a green economy and changing job profiles.

UNEVOC's Greening TVET initiative has actively promoted increased adoption of green strategies in schools, institutions and other educational systems, as well as increased relevance in the curriculum and qualifications. Through its collaboration with a global network of TVET institutions in 163 of UNESCO's 195 member states, UNESCO-UNEVOC is redefining the role of TVET in catering to the skills demands, not only to address the emerging automation of jobs, but also to advocate for a sustainable economy. In this regard, UNESCO-UNEVOC has developed a valuable resource entitled 'Greening TVET: A practical guide for institutions', for supporting implementation. A recent survey of institutions by UNESCO-UNEVOC reveals that institutional motivations for greening include teaching the relevant skills for sustainable and emerging technologies, reducing their institutional carbon footprint, promoting sustainable energy use and contributing to resource efficiency. Enhancing graduate employability is another compelling reason. This suggests positive tendencies at the institutional level.

In conclusion, TVET has played, and will continue to play a role in the path to green economies. The contributions of TVET in making green transition at different levels is critical since it can supply the necessary skills and qualifications to manage new or altered infrastructures in sectors with high environmental impact. Similarly, TVET can facilitate value change and upgrading of skills among those in the informal job sectors, that contribute to environmental degradation. TVET can also help to improve the quality of skills and the timely response of businesses and enterprises to climate action. To make this transition, education and skills for sustainable development for the green economy is the key. ∎

IT'S TIME FOR A PARADIGM SHIFT
In TVET and lifelong learning

Asha Kanwar, Alexis Carr and K. Balasubramanian at the Commonwealth of Learning (COL), argue that while technology is a powerful tool for lifelong learning, it can only be effective if there is a complete shift in the existing paradigm of TVET to establish a culture of autonomous, self-determined learning.

Asha Kanwar,
President and CEO,
Commonwealth of Learning

> **"** New technologies will not thrive with conventional pedagogical approaches.**"**

Estimates from the International Labour Organization suggest that a staggering 200 million people in the world today are unemployed. This is attributed, in part, to a gross mismatch between the supply of skills and labour market demand. Compounding this skills mismatch is the fact that the world of work is rapidly evolving. According to the World Economic Forum, approximately 65 per cent of today's children will work in jobs that don't yet exist; jobs that will require a new suite of technical and soft skills.

With rising unemployment rates and the changing nature of the labour market, skills development is increasingly seen as a way to boost economies, alleviate poverty and address social disparities. Policy makers believe that investment in technical and vocational education and training (TVET) can prepare youth, and upskill or reskill the labour force. Yet, TVET is seldom situated within the spectrum of lifelong learning. While it is seen as an intermediate step on the journey towards certification or academic credentials, TVET is rarely positioned as a continuous lifelong learning process. Without a paradigm shift towards lifelong learning, the gulf between skills supply and demand will continue to widen.

Technological innovations are often seen as a means for transforming TVET to address challenges of access, quality, costs and equity. The Asian Development Bank purports that online TVET and eLearning "provide an opportunity to reach out to remote and rural areas … with high quality media and content and to improve course quality and delivery". Massive Open Online Courses (MOOCs) are becoming an increasingly popular means for training at scale, and with speed. They may also facilitate lifelong learning in TVET, as they "enable the sharing of expertise … [and] provide pathways from informal and non-formal learning to formal study" (Latchem, 2017).

However, we must be careful not to see technology-enabled innovations, such as MOOCs, as 'silver bullet' solutions for TVET. A replication of the conventional 'sage on the stage' approach to teaching is evident in the numerous MOOCs that rely on video-recorded lectures and reading materials. This format ignores the transformational, learner-centred philosophies that should be at the heart of open and distance learning. The approach also does little to contribute

Students at COL partner, Ramogi Institute of Advanced Technology in Kenya, explore coding.

" Learners must be taught how to teach themselves throughout their lives."

to developing the skills and attitudes necessary for lifelong learning in a constantly evolving sector. While technology has great potential, we must not see it as a panacea for all that ails TVET. How can we leverage the power of technology to transform TVET and to promote lifelong learning in the skills sector?

New technologies will not thrive with conventional pedagogical approaches. If we talk about lifelong learning, we must go beyond pedagogy and consider adopting the principles of heutagogy – an innovative approach whereby learners are considered autonomous and learning is seen as self-determined. The method aims to develop learners' capability so that they can adapt and thrive in a rapidly evolving, highly complex world of work. Heutagogy spans the spectrum of formal, non-formal and informal learning – all components of lifelong learning. In alignment with the affordances of current technology, heutagogy includes: exploration, collaboration, creation/ co-creation and sharing of knowledge; personalised, non-linear, self-determined

learning; and networks that link the academic, personal and professional spheres. If TVET is to be transformed to cater to emerging needs, it must go hand-in-hand with a heutagogical approach.

What does a paradigm shift towards a heutagogical approach in TVET mean in terms of policy and practice? How can TVET systems in developing countries embrace technology to expand access and equity, improve quality and cut costs, to deal with the future world of work?
1. Technology can be leveraged for accessible formal and non-formal learning opportunities in TVET. A diversity of innovative formats, such as MOOCs, eApprenticeships, simulations and haptic devices can be made widely available to learners through appropriate and affordable technology. Technology should be placed in an appropriate social, cultural and economic context, if the digital divide is not to be widened. This requires tailoring policies for the most marginalised and disenfranchised first, resulting in more effective policies for all.

2. TVET programmes and courses, whether in face-to-face, distance or MOOC format, must be based on inclusive, learner-centred design principles. In addition, the heutagogical approach can be realised through learner-centricity, including learning contracts, learner-directed questions and reflections, and flexible curriculum and assessment.
3. TVET teachers' roles must be redefined from instructor, to coach and facilitator. The focus will be on encouraging learners' self-direction, with the teacher as a guide or support. This requires imaginative approaches to in-service teacher training.
4. Policy makers and institutions will need to constantly engage with employers and the needs of national development.

Traditional educational approaches in TVET, such as pedagogy and andragogy, are no longer sufficient if we want to develop lifelong learners who are able to keep up with the rapid pace of change in the skills sector. Rather, learners must be taught how to teach themselves throughout their lives. While technology is a powerful tool for lifelong learning, it can only be effective if there is a complete shift in the existing paradigm of TVET. ∎

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Gert Sibande TVET College

Where Quality Meets Potential In Creating Your Tomorrow Today

Gert Sibande TVET College (GSC) is a technical vocational education and training (TVET) institution, situated in Mpumalanga, South Africa. The College offers Report 191, National Certificate Vocational (NCV), certified programmes that are 'unit standards' based, and occupational programmes approved by the South African Qualifications Authority as part of the programme mix. GSC has six campuses, located in Balfour, Ermelo, Evander, Perdekop, Standerton and Dundonald, and also benefits from a Skills Academy and Artisan Development Centre, which is accredited by numerous Sector Education and Training Authorities with developing the youth population in terms of short skills courses, apprenticeships and learnerships, as well as a Centre for Entrepreneurship. In total, the College has a combined enrolment of over 10,000 students.

Gert Sibande TVET College is blessed with highly dedicated staff members who, through subject committees, are able to maintain a high standard of teaching and learning. The college uses innovative ways in teaching and learning and has developed and implemented a web-based lecturer's support system - called Khupula - which allows lecturers access to shared lesson plans, assessments, assignments, projects and resources.

GSC places a premium on its core business of teaching and learning. Here academic performance is the main indicator of success. Consequently, the college is extremely proud of the continuous academic improvement achieved since the inception of the NCV programme in 2007 through until 2018. During this period, the subject pass rate improved from 64% to 90.4%, while the certification rate increased more than fourfold, from 16% to 74.4%.

The College received an unqualified audit report for the 2017 academic year and has implemented processes and controls that ensure the stringent requirements of the Auditor General are met. GSC similarly prides itself on sound financial management practices, with a zero tolerance target set by the college council against fraud, corruption or any misuse of college funds that is non-negotiable. Looking forwards, while the unqualified audit report is already a good benchmark, Gert Sibande TVET College remains committed to taking its financial management system to an even greater level.

www.gscollege.co.za

NATIONAL STRATEGIES TO DEVELOP TVET FOR SUSTAINABLE DEVELOPMENT

Dr Margarita Pavlova from The Education University of Hong Kong looks at three national strategies that will develop technical vocational education and training (TVET) and help realise the Sustainable Development Goals.

Dr Margarita Pavlova,
The Education University of Hong Kong

// The formulation of a vision of society and the economy that empowers the nation to meet SDGs will be the starting point for policy-webs discussion."

TVET plays a critical role in honing the skills required to meet all of the Sustainable Development Goals (SDGs) and facilitate the transition to a green economy, as explained by Shyamal Majumdar in the previous article. To demonstrate the transformative potential of TVET, I focus here on three necessary national strategies that will develop the sector and help deliver on the SDGs. Of course, these strategies are in addition to the usual requirements for provision of efficient TVET, such as having a clear vision, comprehensive legislation and policy guidelines, an effective governance structure, a clear operational qualifications system, as well as excellent TVET providers and programmes. It is also important that these three strategies are considered in the different contexts of different countries.

The first suggested strategy is related to the need to **devise skills policies via policy-webs**. Although the SDGs have been formulated separately, their targets cannot be met in silos. The UN's Sustainable Development Goals Report 2018 highlights the need for 'immediate and accelerated actions by countries along with collaborative partnerships among governments and stakeholders' in order to realise the 2030 Agenda. National development plans for SDG targets should include national skills development policies, and be based on a participatory process for establishing a shared vision of a sustainable future, as well as policies that deliver real outcomes. Thus, more transparent, participatory approaches that respond to real needs and keep stakeholders informed are required. In terms of a structure for these processes, governments – where possible – should develop policy-webs or internet-based networks, so that representative groups can share knowledge, resources and perspectives. These networks can include participants from government, business, international organisations, associations, think tanks, academia, NGOs and the public. Minimal levels of digital skills literacy for all groups within the population are a must.

The formulation of a vision of society and the economy that empowers the nation to meet SDGs will be the starting point for policy-webs discussion. This visualised reality then informs skills

TVET plays a critical role in honing the skills required to transition to a green economy.

development policies, in conjunction with government measures to support development in different sectors, particularly those related to the SDGs. Existing skills development policies (including national qualifications frameworks) can be revised to promote green skills for the achievement of the SDGs and by having clearly defined targets. Green skills are required for reducing the environmental impact of economic development and supporting economic restructuring with the purpose of attaining cleaner, more climate resilient and efficient economies that preserve environmental sustainability and provide decent work conditions. Governments should establish a green skills concept related to green growth strategies, that details all of the necessary skills for their country. The Malaysian approach to supporting its National Green Technology Policy by improving human resource capacity is a good example of a systematic approach for green skills development that is coordinated at the national level. The country has inter-ministerial coordination through the Joint Secretariat of the Working Group on Green Jobs, that ensures

the development of green skills across different economic sectors through the introduction of a new curriculum, and adjustments to existing programmes.

Second, many countries consider the responsivity of TVET to industry needs as a means of establishing efficiency in the sector. The logic of the economic imperative and the race to catch up with industrial development, frames reactive TVET policy formulation. However, the Industrial Revolution 4.0 and use of big data, cloud computing, artificial intelligence, 3D printing and other new technologies require an alternative **proactive policy formulation** for TVET, so it can train for jobs that do not yet exist, in the context of greening.

Industry and the economy should serve society's needs without damaging the environment. However, a 2018 report by the UN's Economic and Social Commission for Asia and the Pacific (ESCAP) demonstrates that advances in the progress of the SDGs that relate to environmental stewardship in Asia and the Pacific have been insufficient throughout the region. Therefore, a future-oriented skills development paradigm is essential for quickening sustainable development.

Skills for life and a readiness for learning that help students reflect on practice, understand the bigger picture, engage in innovative thinking, develop digital literacy, leadership, resilience, risk taking and other skills – often characterised as '21st century skills' (and including generic green skills (Pavlova, 2018)) – are required to meet future industry needs and to help governments implement development plans for their SDGs.

Governments can establish a new or existing body as an innovation and knowledge-sharing centre for enterprises and companies, TVET providers, NGOs and other stakeholders. Such a body will advocate for greening, monitor the skills required to fulfil national green development plans and organise training. This 'consensus space' has actors brainstorming, monitoring, discussing and evaluating issues, challenges and training for skills development, in order to meet the SDGs. Flagship green TVET providers can be supported by government and presented through this platform. The two following examples illustrate proactive government initiatives for addressing the greening needs of their countries.

Credit: TESDA - Technical Education and Skills Development Authority, The Philippines

Establishing a coordinating body for the promotion of green skills development across different industries, such as The Philippines' Green Technology Centre, is crucial for green transformation.

// Formal TVET does not meet skills training needs in many Commonwealth countries, where the informal sector constitutes a large proportion of the economy and skills development mainly occurs in the workplace."

The Green Technology Center in the Philippines (a 'consensus space') was established to promote the development and implementation of greener models for TVET, through collaboration and exchange between academe, industry and TVET institutions. The focus of the centre's different activities is advocacy of environmentally friendly processes, 'green livelihood' programmes, greener products and support for required green skills development.

The Skills Council for Green Jobs in India was established in 2016 to implement nationwide collaborative skills development initiatives to enable India's potential for green business. Opening training centres, assessment agencies, certifying teachers, mapping skills requirements and developing a curriculum for green skills are among the organisation's main functions.

Third, formal TVET does not meet skills training needs in many Commonwealth countries, where the informal sector constitutes a large proportion of the economy and skills development mainly occurs in the workplace, in the form of traditional apprenticeships. Thus, if we want to guarantee that learning supports

the achievement of the SDGs, the **informal sector needs to be both influenced and greened**. This could be made possible by subsidising greener technologies and practices through financial support and training, establishing start-up/incubators for green entrepreneurships, regulating big companies for greening their supply chain, engaging good TVET graduates to solve real problems and by supporting providers in their delivery of skills training (including generic green skills). This process requires certification for training programmes and possible accreditation and recognition of work-based learning. Opening community learning centres, where people learn skills for both life and work as well as gaining a systematic understanding of different occupations, can promote lifelong learning for greening.

Formal TVET institutions can be commissioned by governments to become actively involved in working with communities to support the greening of the informal economy. For example, students and lecturers from the Air University in Pakistan are helping both urban and rural communities to establish and use

greener technologies. The team at the Smart and Sustainable Living Environment research center is working on various projects focused on energy monitoring, conservation systems, green buildings and smart agriculture (such as a low cost, solar powered automated irrigation system). The group also holds workshops for community members on the use of renewable and sustainable energy systems, highlighting the importance of using sustainable technologies. The ATMI Polytechnic Cikarang in Indonesia is giving support to start-up companies established by its graduates to develop green solutions for rural communities.

For each of these three suggested strategies, partnerships and capacity-building are absolutely essential. The education/technology race can only be won through close collaboration with industry and forward planning. It is also vital that TVET pedagogy moves to a more innovative space to support learning for greening. Most Commonwealth countries have similar overall aspirations for TVET, so these three strategies can help countries achieve their SDGs through skills development. ∎

INTERNATIONAL STUDENT EXCHANGE IN A GLOBALISED WORLD

President of the International Association for the Exchange of Students for Technical Experience (IAESTE), Bernard Baeyens, describes how student exchange programmes and international traineeships can bring far-reaching economic and societal benefits for the individuals, institutions and countries involved.

Bernard Baeyens,
President, International Association for the Exchange of Students for Technical Experience

" Students have the opportunity to experience, first-hand, the realities of the labour world. They are independent and obliged to survive alone, and this can be empowering when they realise that they can do it. "

We are living in a globalised world, whether we want it or not. Communication is usually instantaneous, and travelling is easy and becoming cheaper by the day. Many companies have interests in different parts of the world and require a mobile workforce. However, this doesn't always seem easy to achieve. For example, over the last few years we have seen populist politicians sell fear of strangers, but also stories of companies struggling to find the right professionals to staff their international businesses. This is the context against which we should increasingly consider exchange programmes and international traineeships.

Exchange programmes are those whereby students are sent abroad and others are also received, while international trainee programmes offer the opportunity to realise a professional traineeship in another country.

The benefits of exchange programmes for international training are far-reaching. Students have the opportunity to experience, first-hand, the realities of the labour world. They are independent and obliged to survive alone, and this can be empowering when they realise that they can do it. They may find themselves in a totally unknown part of

the world with a different culture from home. Youth that make this step are usually more open to the world, learning not to judge other cultures but accept them for what they are, so becoming more respectful people. They may make friendships in their host country, that last beyond the programme.

The reaction from students after their traineeship is always that "it changed my life", and in many cases it really does. At the end of the 1950s, an American chemical engineering student was posted to a factory in France, where he met some Algerian workers. At that time, Algeria was colonised by France, and he was so impressed by their quest for independence that he went on to complete a masters degree and doctorate in political sciences, following his engineering studies, and has worked ever since on the edge between science and politics.

If employers provide well organised traineeships, they will see multiple benefits. Many companies today work and sell in a multitude of countries, but are their workforces adapted for this? One example is the Spanish company IDOM, which specialises in building infrastructure such as metros, highways and airports. Initially, with only Spanish employees, there were some

The benefits of exchange programmes for international training are far-reaching.

problems with their understanding of the culture of the countries in which they were working. Now, they have engaged more with local people and IAESTE (International Association for the Exchange of Students for Technical Experience) is helping with introducing local trainees from these countries. Bringing 'foreigners' into the workplace obliges others to adapt to a more international environment, including learning new languages. Working with trainees diminishes the risks they might have with regular employees, but helps employers to learn more about the market they want to enter, and to build relationships that may otherwise take more time. Additionally, if the trainee is successful and brings value to the company, there

may be the possibility of longer-term employment for them.

Universities need to adapt their teaching to the industrial world and so feedback from host companies is always useful, through reports on their students' traineeships. They may support students in dealing with theoretical or practical problems, providing opportunities to engage with the host company, and creating a good reputation for the institution. The accreditation of universities includes indicators of internationalisation, and sending students on internships abroad helps to fulfil these criteria.

Misperceptions of certain countries – that are so often shaped through negative media coverage focused on problems and disasters – can be

// In order for international exchange to be a successful experience, participants must be well prepared and supported. IAESTE does this through its network of more than 3,000 volunteers."

IAESTE was founded to promote cultural exchange through student traineeships and more than 85 countries currently participate in its exchange programmes.

corrected in the minds of students travelling to these places to live and work alongside the local people. IAESTE has multiple examples of this, having successfully sent students to Palestine, North Korea and Colombia, among a number of other countries that tend to have a comparatively poorer international image in current times.

" Many companies today work and sell in a multitude of countries, but are their workforces adapted for this?"

IAESTE was founded by a visionary British gentleman in 1948 to promote cultural exchange through student traineeships across ten European countries. Now, 70 years later, more than 85 countries worldwide participate in its exchange programmes, and we have organised around 365,000 traineeships. Approximately 45,000 students have been placed in Commonwealth countries and around the same number of students from Commonwealth member states have gone abroad. The association is a non-political and non-profit organisation that avoids any kind of discrimination. The goal of the association is to provide students in higher education with technical experience relevant to their studies, to offer employers well-qualified and motivated trainees and to be a source of cultural enrichment for trainees and their host communities in line with the UN youth strategy. This has been done in an atmosphere of trust, friendship and respect.

In order for international exchange to be a successful experience, participants must be well prepared and supported. IAESTE does this through its network of more than 3,000 volunteers, who themselves are mostly students, and over 300 local committees. Students are assisted in the administration of the exchange (including organising visas and work permits) and are received at the airport or station and taken to their accommodation and to meet their employer. During their stay, the local committee organises trips and meetings to smooth integration within the local culture.

IAESTE is keen to be more active in Africa, particularly south of the Sahara. Presently, only Ghana, Nigeria, Kenya, Tanzania, Mozambique and South Africa participate modestly in our activities. However, in its 70 years of existence, the organisation has certainly helped to play an important role in the development of a number of Commonwealth countries. Student exchange and international traineeships are an excellent instrument for forging a common universal future for mankind. ∎

AN INTERVIEW WITH…

Professor Samuel Gowon Edoumiekumo, Vice Chancellor, Niger Delta University

Professor Edoumiekumo is the Vice Chancellor of Niger Delta University (NDU), a state government funded university that is located in Bayelsa, a major oil and gas producing state in south Nigeria. The Professor of Economics is an erudite scholar, as well as a banker, financial analyst and public affairs commentator. In this short interview, we discuss his vision for the university and how he is striving to create a centre of excellence, with an international reputation for high quality learning and research.

Q: Your vision for NDU is to produce 'creative and innovative minds'. How are you doing this?
A: The university has an engaging curriculum and inspiring learning environment. Also, there are nine workshops where entrepreneurial skills of students are consistently developed by staff with cognate experience and passion.

Q: What role do you see NDU having in helping to achieve the Sustainable Development Goals and the socio-economic development of Nigeria?
A: NDU provides quality and inclusive education, which is central to the achievement of all of the SDGs. The programmes in the university are geared towards the improvement of quality of life, agricultural development, governance/politics, community health and skills acquisition.

Q: How is the university developing its curriculum to reflect current and future global challenges?
A: The university has a Senate committee on curriculum development that regularly reviews the teaching and learning content of the various departments to meet labour market, global knowledge and socio-cultural and economic needs. In addition, research and development, and national and foreign collaborations help to ensure our curriculum remains relevant and current.

Q: NDU believes in the 'total development' of its students. How are you giving young adults the opportunity to explore their potentials to the fullest?
A: The university has a well-developed Entrepreneurial Centre where students acquire entrepreneurial skills in various areas. More so, sports and games facilities exist for the development of athletic skills.

Q: Are you keen for the university to develop partnerships, for example with the private sector and state government? If so, why?
A: Certainly yes. Partnerships bridge the gap between the university, the government and industry. Thus, we have established relevant collaborations with reputable institutions within and outside Nigeria for research and development, staff and student exchanges and joint supervision of post-graduate programmes. Examples of our collaborative partners include the University of Bradford and University of Wolverhampton in the UK, Vaal University of Technology in South Africa, the Nigerian Content Development and Monitoring Board (NCDMB), Yokogawa Nig. Ltd, and the National Open University of Nigeria (NOUN). The reason for our partnerships is to enhance collaboration in order to advance research and seek ways to solve

basic societal problems. Again, since the world is now a global village, collaboration with relevant private and public sectors is the only way to remain relevant and functional.

Q: Is NDU embracing e-learning? If so, how and why?
A: Yes. The university is achieving this through computer based tests (CBT) for large classes. The advent of ICT has revolutionised the teaching and learning process. This is because embracing ICT will offer better learning experiences, access to literature and improved outcomes.

Q: What are your ambitions for the university over the next 10 years?
A: To build the university as a centre of excellence with capacity to contribute towards providing solutions to the challenges in the Niger Delta, Nigeria and the world at large.

Q: One of the priorities for education in Africa is inclusive and equitable education. How is the university addressing this?
A: The university provides part-time, long vacation, basic and pre-degree programmes that offer opportunities for all who aspire to have a university education. These programmes are available in multiple campuses. Also, the university plans to institute a scholarship scheme for indigent and female students.

BRIDGING THE FUNDING GAP:
The International Finance Facility for Education

UN Special Envoy for Global Education, Gordon Brown, highlights the staggering scale of the challenge to achieve education for all across the Commonwealth, and looks at the International Finance Facility for Education as a solution to address the shortfall in global education finance.

Gordon Brown,
UN Special Envoy for Global Education

> **"** The shortfall in global education funds could be as high as $90 billion by 2030."

Across the Commonwealth's 53 countries, 135 million school-age children are not going to school today. Almost 250 million will leave their education for good at the age of 11 or 12, and never return to school.

What's more, an astonishing 480 million – 85 per cent of the Commonwealth's 560 million low and middle-income country school age children – will finish school without proper qualifications for joining their country's workforce.

The Commonwealth has a staggeringly high proportion of the world's illiterate and poorly educated. Our Commonwealth countries are home to more than half of the world's out of school children.

The scale of the problem we face is such that the Commonwealth contains more than half of all those globally who leave education without any recognisable qualifications.

And tragically, these figures will not show substantial improvement by 2030, the year that the Sustainable Development Goals – to which all Commonwealth countries are committed – have to be met.

Even looking ahead to 2030, under current trends 440 million – around 80 per cent – of all school age children across the Commonwealth will leave school for good without functionally useful qualifications, unprepared for the world of work or for the needs of the new economy.

The knock-on effects are shocking. The World Bank has shown that 25 per cent of adults with no education live in absolute poverty. The poverty rate can be cut in half for adults with some primary education, but at 12.5 per cent it is still higher than the 10 per cent world average. On the other hand, poverty is all but absent among adults with some tertiary education.

Girls are worst hit by our neglect of education. With a total of 240 million girls leaving school early, even in 2030, child marriage, child labour and child trafficking will remain unacceptably high. Yet, as a recent World Bank report has shown, child marriage could be virtually eliminated if all girls completed secondary education. What's more, under-five mortality rates for their newborn children would also be reduced by one fifth.

The UK Government – and the Commonwealth as a whole – wants every child to enjoy 12 years of education, a right from which girls would be the biggest beneficiaries. But until now there has been insufficient resources to make that commitment anything other than a pipe dream.

We know that even in 2030, the low and middle-income countries of the Commonwealth will still be constrained by both their own limited resources and the limited share of their public spending that goes to education. This is sometimes, as in Africa's biggest country Nigeria, as low as two per cent of GDP.

Countries would have to double their share of spending on education and increase their performance levels to those of the highest achieving nations. Even then the shortfall in global education funds could be as high as $90 billion by 2030.

For currently, we are also held back by the shortage of sufficient aid for education. It is often forgotten that even when all multilateral and all bilateral aid for education is included, the average per child is less than $10, barely enough for a second hand text book.

Without decisive action now, most low and middle-income countries will continue to suffer a chronic shortage of resources to pay for education, and because funding for education is not given priority by international institutions, the situation may get worse not better.

Fortunately there is a new way to help bridge this major funding gap: the International Finance Facility for Education (IFFEd).

This proposal, which comes from the Education Commission – comprising experts and education supporters, including many from the Commonwealth; Graça Machel, President Kikwete, Aliko Dangote, Amartya Sen and Theo Sowa, among many others – is that donor countries will offer guarantees, in the first instance $2 billion between them, to allow this new finance facility, IFFEd, to be created.

In return, developing countries would have to increase their commitment of resources to education, reform their education systems and ensure their own spending was more cost-effective.

> **"** The International Finance Facility for Education could unite the Commonwealth around a specific set of commitments linked to our common aim – achieving the Sustainable Development Goals – to transform the opportunities for girls and boys across the Commonwealth."

The biggest beneficiaries would be the 'missing middle' countries that have lost grant aid from international financial institutions, and are unable to afford current borrowing costs – usually upwards of four per cent a year – to pay for teachers' salaries and school running costs.

Commonwealth lower middle-income countries would become beneficiaries almost immediately, and in total, the countries that would be beneficiaries would number 20 by 2030.

The IFFEd proposal has the support of the World Bank and the Regional Development Banks, including the European Bank for Reconstruction and Development and the African Development Bank. Most African governments of low and lower middle-income countries have written letters of support or offered backing.

The facility has some parallels with the British-led International Finance Facility for Immunisation, which has achieved great success in vaccinating children in poorer countries. On the basis of guarantees issued by donor countries, around $7-8 billion will be raised to provide resources for the biggest group of out of school and unqualified children, and a buy down facility – to convert possible loans into credits – would mean that we are

injecting $10 billion into education.

The $10 billion would effectively double what is the annual figure ($9 billion) for bilateral support for primary and secondary schooling in low and middle-income countries. With more than half of the world's out of school children today, and half who will leave school without recognisable qualifications, the Commonwealth countries stand to gain most from this new initiative.

The benefit of the IFFEd plan is that it secures Commonwealth support for 12 years' education, especially girls' education, in line with the UK Government and the Commonwealth's expressed commitment to realise the Sustainable Development Goals. It is the most cost-effective way of using aid in challenging times, particularly when aid budgets are under pressure and quite rightly, under great scrutiny. For a UK guarantee of money, say $200 million, and a buy down facility, we can ensure that up to $1 billion is invested in education. Because girls' education has been the least supported area of education in the past, with the biggest backlog of need, girls will be the biggest beneficiaries.

At the Commonwealth Summit in London in April 2018, Commonwealth leaders unanimously adopted the

12-year target for Commonwealth schooling, as well as a specific commitment to delivering universal girls' education.

But despite generous aid commitments from the UK, the overall means of funding such commitments remains unresolved. The International Finance Facility for Education could unite the Commonwealth around a specific set of commitments linked to our common aim – achieving the Sustainable Development Goals – to transform the opportunities for girls and boys across the Commonwealth.

The next stage is for donor countries – Australia, Canada, New Zealand and the UK in particular – to offer guarantees to create the new facility, and to get it up and running in 2019. Then we can talk realistically about being the first generation in history where every child in the Commonwealth goes to school. ∎

> **"** Poverty is all but absent among adults with some tertiary education."

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MOBILISING FINANCE FOR EDUCATION IN THE COMMONWEALTH

Dr Ngozi Okonjo-Iweala, global economist and former Finance Minister of Nigeria, calls on Commonwealth governments to prioritise spending on education and to collectively embrace the innovative International Finance Facility for Education to make quality and relevant education a reality for all.

Dr Ngozi Okonjo-Iweala,
Board Chair, Global Alliance for Vaccines and Immunization, and former Finance Minister of Nigeria

" One opportunity is the establishment of an International Finance Facility for Education to leverage multilateral development bank's capacities in Asia or Africa by using financial guarantees from the most advantaged nations."

In its almost 70 years of existence, the Commonwealth has been a force for progress, driving change on trade negotiations, women's leadership and youth participation. When change happens in the Commonwealth, change happens in 53 countries spanning six continents and among 2.4 billion inhabitants – nearly one third of the world's population. This means that as a group, Commonwealth countries can drive significant change on a global scale. However, there is one particular area – crucial for the future of its members – where the Commonwealth has the opportunity to play a stronger leadership: bringing education and learning to every child, as called for in Sustainable Development Goal 4.

Today, there are 135 million children in developing countries of the Commonwealth that don't go to school. In Pakistan, nearly 20 million primary and secondary aged children are out of school, in Bangladesh this is seven million, in Cameroon 1.6 million, Ghana 1.8 million and Mozambique 2.3 million. Sadly, in Nigeria, my home country, nearly nine million primary school aged children are out of school and the numbers are not available for the millions more denied a secondary education, especially girls. There are

also important disparities in access to education between the richest and poorest Commonwealth countries, between girls and boys and between children living in rural or urban areas.

On current trends, by 2030 – the year by which world leaders have pledged to deliver on the UN's Sustainable Development Goals – more than 70 per cent of all children in the Commonwealth will not be on track to attain basic secondary school level skills. Meanwhile, the demand for higher order skills is increasing rapidly as technological change is fundamentally transforming labour markets. An expansion of educational opportunity is needed not just because of skill shortages that we can identify now, or at any one point in time, but because more current skills are becoming redundant.

We cannot afford to fail our youth and must invest in education. Governments of Commonwealth countries need to raise their ambitions by prioritising education in national budgets and reforming systems to guarantee that every child can be in school and learning. But, even with their best efforts, a large funding gap will still exist, requiring additional international support.

The International Commission on Financing Global Education Opportunity – an organisation I am part of – found that while low income countries (LICs) may be able to benefit from increased grant resources due to greater prioritisation of LICs in bilateral programmes, availability of a dedicated global fund (the Global Partnership for Education) and greater access to highly concessional finance through the World Bank's enhanced International Development Association (IDA), lower-middle income countries face structural challenges that make them particularly vulnerable to inadequate financing. As they gain economic ground, their access to grants, low interest, or interest-free loans to finance education declines, but their tax receipts do not increase quickly enough to compensate and finance the expansion and upgrades that their education systems need.

So, how can we provide more money for education to countries, with limited resources, that are already dealing with an endless list of financial priorities ranging from healthcare to economic development and security? I argue that we need to build on the promise of financial innovation and look for opportunities to tap all available resources, as laid out in the Addis Ababa agreement on Financing for Development, to mobilise additional financing for the Sustainable Development Goals.

One such opportunity is the establishment of an International Finance Facility for Education (IFFEd). This innovative financing solution will leverage multilateral development bank's capacities in Asia or Africa by using financial guarantees from the most advantaged nations such as Australia, Canada, New Zealand or the United Kingdom. It is a unique opportunity for all Commonwealth countries, as donor or recipient of financial provision, to come together in support of one of the most important development priorities.

As outlined by Gordon Brown in the previous article, the facility was designed by the Education Commission in collaboration with five multilateral development banks,

Commonwealth countries cannot afford to fail our youth and must invest in education.

a group of champion donor countries, representatives of international organisations, and dozens of experts from the education, development and finance worlds.

The new facility could help 16 less advantaged Commonwealth countries to receive more funding for education, benefitting millions of young people, not least girls who are often the most marginalised and discriminated group. In these countries, the additional finance would complement domestic resource mobilisation, bilateral aid and increased multilateral funding, including through the Global Partnership for Education (GPE).

To address the unique needs of each country and promote national ownership, IFFEd financing would be available for any education-related initiative or reform effort that is consistent with a country's strategy to increase access, learning and equity across all education levels. To ensure that the new financing has maximum impact, IFFEd will favour countries that have credible programmes of reform and commit to monitoring and tracking results, so that every dollar leveraged through the facility brings us one step closer to achieving Sustainable Development Goal 4.

The good news is that the launch of this facility is now entering into its final phase and should become operational in 2020. Currently, there is a working model, a strong group of multilateral banks eager to be part of it and a number of donor countries that can help move it forward.

As a former minister of Nigeria, Africa's most populous country, I know that there is no time to waste to invest in our young generations. I hope that Commonwealth countries will embrace this new facility by providing the means to launch it and committing to improve education and learning. ∎

// When change happens in the Commonwealth, change happens in 53 countries spanning six continents and among 2.4 billion inhabitants ."

EDUCATION POLICY MUST BE BASED ON STATISTICS NOT MYTHS

OECD Director for Education and Skills, Andreas Schleicher, believes that in order to educate students for their future, not our past, we need to accurately assess the effectiveness of education systems and tackle the many myths that frame conventional thinking.

Andreas Schleicher,
Director for Education and Skills, and Special Advisor on Education Policy to the Secretary-General at the Organisation for Economic Co-operation and Development (OECD)

**" **One of the reasons we get stuck in education is that conventional thinking is framed by a number of myths."

We live in a world in which the kind of things that are easy to teach and test have also become easy to digitise and automate. Education has kept abreast with technology advancements throughout history, but there is no guarantee that it will continue to do so in the future. Students growing up with a smartphone but a poor education will face unprecedented risks. When we could still assume that what we learned in school would last us for a lifetime, teaching content knowledge and routine cognitive skills was rightly at the centre of education. Today, the world no longer rewards us for what we know – after all, Google knows everything – but for what we can do with what we know. If all we do is teach our children what we know, they may remember enough to follow in our footsteps. But it is only if we help them to build a reliable compass and navigation skills that they will be able to go anywhere and make their best way through this increasingly complex, volatile and ambiguous world.

One of the reasons we get stuck in education is that conventional thinking is framed by a number of myths. *The poor will always do badly in school.* However, a look at the Commonwealth countries that took part in OECD's Programme for International Student Assessment (PISA) shows that's not true. The 10 per cent most disadvantaged 15-year olds in Canada do as well in science as the 20 per cent most advantaged students in Trinidad and Tobago. *Immigrants will lower the educational performance of a country on international comparisons.* That's also not true. There is no relationship between the share of immigrants and the quality of an education system, and the school systems where immigrant students settle matters a lot more than the country from which they came. *Smaller classes mean better results.* That's not true. In fact, whenever high-performing education systems have to make a choice between a smaller class and a better teacher, they go for the latter: Singapore has a student/staff ratio of 12:1 – more favourable than in the UK where it is 14:7 – yet, Singapore has much larger classes (typically 34) than the UK (24). What looks like a statistical fluke has a lot of practical implications. Teachers in the UK have little time for other things other than teaching, while the larger class size in Singapore allows teachers to spend much more time with their colleagues to observe other practice and work collaboratively on new practice. Often it is small classes that have created the culture where teachers have less time to

support individual students, collaborate with other teacher professionals or work with parents – things that are the hallmarks of high-performing education systems. *More time spent learning always means better results.* That's not true. Study hours in Finland are little more than half those spent by students in the United Arab Emirates, but in Finland, students evidently learn a lot in little time while in the UAE they learn very little in a lot of time. *The results on PISA are merely a reflection of culture.* That's not true. The most rapidly improving education systems changed their educational policies and practices, not their culture.

Why is our thinking so restricted by myths and past practice? Because education systems have a habit of building 'walls' that separate teachers, schools or the systems themselves from peer-learning. The objective of PISA was to break some of those barriers. The idea was to count what counts, that is to collect high-quality data and combine it with information on the wider social outcomes; to analyse that data to empower educators and researchers to make more informed decisions; and to harness collaborative power to act on the data, both by lowering the cost of political action, and at times also by raising the cost of

political inaction. The good news is that our knowledge about what works in education has vastly improved.

The first thing I learned is that the leaders in high-performing education systems have convinced their citizens that it is worth investing in the future through education, rather than spending for immediate rewards, and that it is better to compete on the quality of labour rather than on the price of labour. Singapore provides a great example for this.

But valuing education highly is just part of the equation. Another part is the belief that every student can learn. In some countries, students are segregated into different tracks at early ages, reflecting the notion that only some children can achieve world-class standards. PISA shows that such selection is related to large social disparities. By contrast, in countries as different as Australia, Canada, Finland and Japan, parents and teachers are committed to the belief that all students can meet high standards. These beliefs are often manifested in student and teacher behaviour. Systems based on these beliefs have advanced from sorting human talent to developing human talent.

In many education systems, different students are taught in similar ways.

// Our task is not to make the impossible possible, but to make the possible attainable."

Top school systems tend to address the diversity of student needs with differentiated pedagogical practice – without compromising on standards. They realise that ordinary students can have extraordinary talents; and they personalise the education experience so that all students can meet high standards. Moreover, teachers in these systems invest not just in their students' academic success but also in their wellbeing.

Nowhere does the quality of a school system exceed the quality of its teachers. Top school systems select and educate their teaching staff carefully. They improve the performance of teachers that are struggling and they structure pay to reflect professional standards. They provide an environment in which teachers work together to frame good practice, and encourage individuals to grow in their careers.

**Map of the OECD's Programme for International Student Assessment (PISA).
The triennial international survey evaluates education systems across the world.**

■ OECD countries
■ Partner countries and economies in PISA 2015
■ Partner countries and economies in previous cycles

// The idea [of PISA] was to count what counts, that is to collect high-quality data and combine it with information on the wider social outcomes."

Top-performing school systems set ambitious goals, are clear about what students should be able to do, and enable teachers to figure out what they need to teach their students. They have moved on from administrative control and accountability to professional forms of work organisation. They encourage their teachers to be innovative, to improve their own performance and that of their colleagues, and to pursue professional development that leads to better practice. In top school systems, the emphasis is not on looking upwards within the administration of the school system, but about looking outwards to the next teacher or the next school, to create a culture of collaboration and strong, innovative networks.

The best-performing school systems provide high quality education for all, so that every student benefits from excellent teaching. To achieve this, these countries attract the strongest

principals to the toughest schools and the most talented teachers to the most challenging classrooms.

Last but not least, high-performing systems tend to align policies and practices across the entire system. They ensure that the policies are coherent over sustained periods of time, and they see that they are consistently implemented.

Still, knowledge is only as valuable as our capacity to act on it. To transform schooling at scale, we need not just a radical vision of what is possible, but also smart strategies that help make change. The road of educational reform is littered with good ideas that were poorly implemented. And the laws, regulations, structures and institutions on which educational leaders tend to focus are just like the small visible tip of an iceberg.

The reason why it is so hard to move school systems is that there is a much larger invisible part under the waterline. This invisible part is about

the interests, beliefs, motivations and fears of the people who are involved in education, parents and teachers included. This is where unexpected collisions occur, because this part of educational reform tends to evade the radar screen of public policy. That is why educational leaders are rarely successful with reform unless they build a shared understanding and collective ownership for change, and unless they build capacity and create the right policy climate, with accountability measures designed to encourage innovation rather than compliance.

The results from PISA show that universal high quality education is an attainable goal, and our task is not to make the impossible possible, but to make the possible attainable. It is entirely with the means of Commonwealth countries to deliver a future for millions of their learners, who currently don't have one. ■

EDO UNIVERSITY IYAMHO, EDO STATE, NIGERIA

Edo University Iyamho was established to meet the increasing demand for quality tertiary education within Nigeria in particular, and across the globe as a whole. The Edo State Government also believed that developing human capital through a quality education is the key element to a meaningful and sustained development of the State, hence the desire to establish a University that is a first class destination of choice for students. This attitude informed the decision to provide Edo University Iyamho with world-class teaching and learning facilities.

The University prides itself with its use of the Canvas Learning Management System – the first education establishment in West Africa to do so – as well as its use of smart boards, multimedia lectures delivered in climate-controlled classrooms, a serene learning environment, its high speed internet, the first anatomage table in Nigeria, a power laboratory, a skills laboratory, as well as a top-of-the-range engineering workshop, where students enjoy hands-on entrepreneurial experiences. Edo University presents a student-centred and competency-based learning experience, which is comparable to other universities throughout the world.

It is therefore not surprising that Edo University Iyamho was rated third amongst all universities in Nigeria within the National Universities Commission's 2018 rankings.

Edo University Iyamho offers specialised academic degree programmes within the fields of:

- Accounting
- Business Administration
- Biochemistry
- Chemical Engineering
- Civil Engineering
- Computer Engineering and Computer Science

- Economics
- Electrical Engineering and Electronics
- English Language
- History and International Studies
- Mass Communication
- Mechanical Engineering

- Medical Laboratory Science
- Medicine and Surgery
- Microbiology
- Nursing Science
- Political Science
- Public Administration

www.edouniversity.edu.ng

"The vision of Edo University Iyamho, is to become a centre of excellence in quality teaching, research, innovations and community development."

WE NEED TO REIMAGINE EDUCATION

Wendy Kopp, CEO and Co-Founder of Teach For All, calls on educators to overcome a fear of the unknown to reimagine education in order to prepare students with the skills and mindsets that will lead us towards meeting our global aspirations.

Wendy Kopp,
CEO & Co-Founder, Teach For All

> **❝** Students cannot simply sit in rows as passive receptacles of information."

The authors of the Sustainable Development Goals (SDGs) were prescient in knowing that the path ahead involves ensuring today's students are gaining the knowledge and skills to advance and sustain progress toward the Goals. One of the most important parts of SDG 4 on Quality Learning for All, then, is Target 4.7, which focuses on students building the 'knowledge and skills needed to promote sustainable development, including… human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity'.

Reaching this target requires us to help grow students as leaders determined to make our world better. To learn to solve the increasingly complex problems that face us, students cannot simply sit in rows as passive receptacles of information and work towards narrow academic outcomes. Instead, they need to be shaping their learning journeys and growing with the proficiency, dispositions, agency and awareness necessary to solve issues facing their communities now and in the future.

We need to change what we're working towards in schools and rethink our approach to reaching the broad student outcomes we seek. This transformation will require that we first change ourselves, which educators around the world are already doing.

In India, 2018 marked the inaugural Kids Education Revolution (KER) Week, a national summit hosted by Teach For India that brought 101 student leaders from seven cities together with educators, for six days of learning, sharing, creating and teaching, around the theme of reimagining education. In groups, students and educators shared their experiences of creating change in their schools and communities, practised the principles of design thinking, envisioned their ideal learning environments and expressed their hopes and dreams for the future through spoken word, dance, drama and more. The student 'Revolutionaries' highlighted the importance of student voice in decisions that impact their education and their lives, and the adults in the room listened.

Later in the week, the Revolutionaries were joined by students from across Mumbai for KER Night – a series of performances inspired by the theme 'Why Does Student Voice Matter?' that they presented to an audience of more than 500 educators, policy makers and corporate and non-profit leaders. KER Week's culminating event brought together 450 local educators for two days of reimagining education alongside the students. During interactive sessions, the Revolutionaries led the adults through a series of innovative learning experiences and reflective discussions. By the end of the week, educators talked about how "the kids changed my perspective and made me see the education system through their

> **❞** It is never easy to reexamine,
> and perhaps shift,
> deeply held beliefs
> about teaching, learning,
> or ourselves."

Credit: Prashin Jagger

Students at the 2019 Kids Education Revolution Retreat, which focused on fostering their leadership development.

lens" and described how they "saw the magic children are capable of when given the chance!"

Recently, I attended the second edition of this gathering and was struck by the power of KER as a means for testing approaches to developing student leadership. I left feeling that many others could adapt what is being piloted at KER to engage students and educators in reflecting on what differentiates the most incredible student leaders and what educators do to enable them.

In addition to enabling students to take charge of their learning, we must ensure they're taught in ways that help them build a nuanced understanding of the histories, cultures and power dynamics that shape the world and themselves as individuals. As students develop this self-awareness, they will also develop the agency to shape a better future for themselves and all of us.

Kaija Keski-Nummi is a Teach For Australia alumna who teaches in a remote town called Tennant Creek in the Northern Territory. After building strong relationships with students during her first two years as a secondary science teacher, she took the initiative to start an Aboriginal Studies class with the support of her principal.

Kaija is a white woman from Sydney, more than 3,000 km away from Tennant Creek. To adjust to the culture of her new community,

Kaija has confronted some of her own unconscious biases, read about Aboriginal history and culture and partnered with people in the community to learn from them and privilege their voices in school. She partnered with a community elder named Rosemary Plumber, who is a trove of knowledge and insight. Rosemary now attends Kaija's classroom twice a week to supplement her lessons. Students in the Aboriginal Studies class have shared that they hadn't ever learned about their own culture in formal school before. They talked about Rosemary and how critical her voice, insights, knowledge and wisdom are for their learning. Kaija's class is a reminder of how powerful it is for students to see themselves and their community in their work.

To create schools that nurture students as leaders of a better future, educators will need to embrace mindsets and habits differently than those they may have experienced and internalised as students themselves. Most formal schooling systems around the world were designed in a manufacturing era, when compliance and uniformity were key. In the 21st-century, collaboration and innovation are more important than ever. Preparing students for leadership in this new era requires that we reexamine both what and how students are learning.

School 21 is an East London school co-founded by a Teach First UK alumnus, serving students aged four to eighteen. The school is founded on the premise that we need to 'rebalance head (academic success), heart (character and wellbeing) and hand (generating ideas, problem-solving, making a difference),. At school assemblies, students are seated in circles and use a range of talk protocols to invite diverse voices into the conversation. In classrooms, students regularly discuss complex issues like culture, race and gender through their wellbeing curriculum. And throughout the schools, the arts are seamlessly infused into the curriculum to promote creative thinking and self-expression.

Moving toward a model where classrooms are more democratic, innovative and culturally responsive can be scary for educators, especially when they're being asked to trust in a future that isn't yet clear. It is hard to teach in ways that may differ radically from how we ourselves were taught. And it is never easy to reexamine, and perhaps shift, deeply held beliefs about teaching, learning or ourselves. That said, if we can persevere through our own fear of the unknown and reimagine education, we can prepare students to succeed amidst the uncertainties that lie ahead, and we can ensure they gain the skills and mindsets to lead us towards meeting our global aspirations. ∎

EDUCATION SHOULD PRIORITISE HUMAN GROWTH OVER ACADEMIC ACHIEVEMENT

Evarist Bartolo, Malta's Minister for Education and Employment, believes we should break free from the restraints of traditional education systems and instead strive to create well-rounded educational experiences that focus on people and aspirations rather than curricula and academia.

Evarist Bartolo,
Minister for Education and Employment, Malta

"We must stir the pot to burst the bubble that education sits in, and inject strong doses of reality into it."

There are many research reports that assess the quality of an education system. Sometimes they are damning, providing plenty of evidence and statistics to claim why this or that part of the education structure is not working. But, do you know which is the most damning verdict? It's not found in reports or research, but in a reaction. The reaction of a child when a snow day or an unforeseen thing happens and school might be off for a day. The sheer joy of the child as they realise they're off the hook for a day. It's indeed sad.

In the early years, there's excitement when children start on their educational paths. They are curious and looking forward to learning new things, and school doesn't feel like a drag. Parents often complain that when children are young, they are constantly asking and asking. They want to understand the world around them and one way of doing that is in school. But as the years proceed, that curiosity vanishes. Rigid structures require the student to conform – almost like a militaristic framework. Even the way that traditional classes are designed reflects this, with straight rows laid out one after the other. It is a system based on obedience.

After several years, we then ask these individuals to be creative and to think for themselves. We ask them to come up with original ideas and to lead in areas such as citizenship and democratic debate.

Even the way in which students are assessed is fixed. There is a distinction to be made here between assessment and examinations. Nobody is questioning the importance of assessing a person's ability or skill – that is very important, and without it one cannot truly prepare a personalised approach. However, examinations are another thing. I believe that continuous assessment, when prepared and valued properly, can be a much better alternative to a three-hour examination session.

Minister Bartolo visiting a school in Malta.

In Malta, we are changing this through the gradual removal of half-yearly examinations, which in turn, will be replaced by a continuous assessment programme.

Twenty one years ago, the former European Commission President, Jacques Delors, wrote a report entitled 'Learning: A Treasure Within'. Delors served on the UNESCO Commission on Education for the Twenty First Century from 1993 to 1996, and this report was the final statement of his work. It became the basis of various policies, including those in the European Union, such as the European Lifelong Learning Indicators.

The report listed four important pillars for education: learning to know, learning to do, learning to live with others and learning to be. These pillars encompass the fundamentals of a well-rounded educational experience, and are about human growth rather than academic achievement. It had the

foresight and ambition to dream of what could be done, referenced commonly as "utopia" in the report, but which in reality, are straightforward and simple notions. It discussed things that were yet to come at the time of publication, such as a multicultural environment in schools and the impact of advancing technology on the way that we learn.

It proposed concepts that were well ahead of its time, and forecasted a changing society in which skills and abilities in the real world were more important than academic certification. It discussed the "exclusion of a growing number of people in the rich countries" and how this would continue to bring about disillusionment. Some of the effects of such inequality have become evident in recent years.

The report received rave reviews because it did not discuss education in an inelastic manner. It tried to burst the bubble that education often finds itself stuck in. It was primarily about

the world, the industries that dominate our working lives and the human interactions in between. It was not just about curricula and academia, but about people and aspirations.

Education often lives in a world of its own and it is easy to forget that its livelihood depends on its interaction with the outside world. We must stir the pot to burst the bubble that education sits in, and inject strong doses of reality into it. ∎

// Continuous assessment, when prepared and valued properly, can be a much better alternative to a three-hour examination session."

![MCAST logo]
MCAST
Malta College of Arts, Science & Technology

MCAST: MALTA'S LEADING VOCATIONAL EDUCATION AND TRAINING INSTITUTION SINCE 2001

Professor Joachim James Calleja, Principal/CEO

Image taken by MCAST student Cheyenne Xuereb

Message from the Principal/CEO

The Malta College of Arts, Science and Technology is at once a post-secondary school, college and a higher education institution. Set up in 2001, MCAST is Malta's leading vocational education and training institution offering a wide variety of industry-driven qualifications and community-based curricula. MCAST is synonymous with work based learning in various forms but in particular apprenticeships. Learners of all ages are given the opportunity to meet prospective employers in booming economic sectors in Malta such as iGaming, aircraft maintenance, financial services, banking, artificial intelligence, higher and technical education, and the care industry. Studying in Malta and at MCAST will be an unforgettable experience. The Island of Malta enjoys a unique blend of European and Mediterranean cultures on a surface area of 316 km2 (122 sq. mi) in area. Thanks to its Mediterranean climate, Malta's cultural activities are a kaleidoscope of events all year round. From its oldest Neolithic Temples in the world to its modern information technology network, Malta's job opportunities today belie its economic and geopolitical size. Real GDP growth is forecast to average 6.2% for 2019 as a whole, in a context of favourable labour market conditions and high consumer confidence. Reflecting this unparalleled economic prosperity are the sixty-nine nationalities present at MCAST making the institution a cosmopolitan and intercultural centre of excellence. MCAST is home to six institutes awarding qualifications for basic skills through to Master's degree programmes in Environmental Engineering, Water Resources Management, High Performance Buildings, Mechatronics, Product Design and Exercise and Sports Science. We also offer over 350 part-time courses, which you can enrol into while working in Malta. All qualifications are recognised in all EU countries and those beyond such as China and India. The College is steadily becoming a key vocational university of applied sciences in the Euro Mediterranean region in a country that is a dynamic and liveable nation which continues to welcome the world with new jobs in a flourishing economy.

New courses in the Arts and Social Sciences

In 2017-2018, the Institute of Community Services launched a number of new courses including the Diploma in Foundation Studies for Security, Enforcement and Protection, thus opening a new avenue for students wishing to pursue a career in the disciplined forces. New courses include a BA (Hons) in Sport, Exercise and Health and the BA (Hons) in Inclusive Education. The Institute of Community Services regularly offers hairdressing and beauty students the possibility to practice within its salons which are open to the public. In 2018-2019, the

Institute of Business Management and Commerce started offering all its students at a technical level (MQF Level 4) courses on apprenticeships, in order for them to acquire competences through a work setting. In 2018, MCAST's Institute for Creative Arts launched the new BA in Performing Arts. Furthermore, MCAST was involved in various projects related to Valletta 2018: European Capital of Culture. The most ambitious being the development and the production of Aida by Opera Spanga which brought together several departments of the Institute for the Creative Arts, together with students from the Institute of Community Services.

Technology and Applied Sciences: reflecting the Maltese economy

The Institute for Engineering and Transport (IET) is one of the largest and most popular institutes at MCAST with a wide portfolio of programmes that reflect the vibrant and fast developing areas of the Maltese economy, including the maritime and aviation industries. With the super

yacht industry as well as the aircraft maintenance industry expanding operations on the island, IET is tasked with preparing the necessary labour force to cater for this sector. In the engineering sector, the Engineering Board has now agreed to consider MCAST engineering graduates for the engineering warrant, making MCAST's Bachelor of Engineering courses more relevant to industry's needs. At the Institute of Applied Sciences, the BSc in Nursing is a flagship programme that is being delivered under the guidance of Northumbria University (UK). MCAST also offers a Bachelor's Degree in Health Sciences providing graduates who are in charge of physiological measurements in the health care environments. The Institute of ICT's main thrust is in two directions, namely programming and computer networks. With regards to programming, students either specialise in the elaboration of web portal infrastructure, database management and analytics, or in web portal interfaces, focusing primarily on multimedia software development. MCAST graduates in ICT are in high demand by industry.

Images provided by the Malta Tourism Authority.

REORIENTATING MALAYSIA'S EDUCATION SYSTEM

Malaysia's Minister of Education, Dr Maszlee Malik, tells how the country's new government is balancing education reform in Malaysia, encourage a culture of shared responsibility for updating and revitalising the education system, while keeping the wellbeing of students and teachers at the heart of policy.

Dr Maszlee Malik,
Minister of Education, Malaysia

" Teachers already bear the weight of unnecessary administrative tasks, but the burden of responsibility for educating should not rest solely on their shoulders."

Sometimes to effect serious change, a radical departure from the old is required. Other times, a gentle rebalancing is all that is necessary. In the case of education in Malaysia, as we have discovered over the previous year since the last general election, both approaches have merited consideration and application. It is not often we are presented with an opportunity to significantly address the shortcomings of a ministry, one that was made possible through the promise of reform brought by a new government in Malaysia for the first time in its post-independence history.

However, with opportunity comes risk, as the Ministry of Education has a mammoth task and its work is arguably more tangible to citizens than that of other ministries. Given this opportunity, we've taken the first steps toward a radical reorientation of our education system.

Our first task involved identifying for ourselves what it means to pursue an agenda of education reform, before getting into the practical details of our plans. We recognised many philosophical changes to implement, beginning with the fundamental view that education is not the sole purview of teachers and their classrooms. Rather, it is the responsibility of all: parents, students, lawmakers, communities, society.

Teachers already bear the weight of unnecessary administrative tasks, but the burden of responsibility for educating should not rest solely on their shoulders. This is hardly a revolutionary idea but one with the potential to change mindsets and shape communities to approach education more holistically. We are trying to impress upon the public that education is everyone's responsibility and that we can do so much together. The education system shapes the society that we live in, and vice versa. With this understanding, we propagated the idea of 'schools for communities, and universities for society'.

By encouraging wider participation in the improvement of the education system, we can leverage greater collaboration and diversity of strengths. This sort of public-private partnership encompasses more than the traditional involvement of companies through corporate social responsibility (CSR) programmes, but

The education system should instil values like love, happiness and mutual respect, so that students will learn to enjoy learning and love knowledge.

also encourages participation from all sectors of society.

Our next priority is to emphasise a values-based education system. What purpose does an education system serve, if not to bring out our humanity and to inculcate values of love, happiness and mutual respect? Our schools should be a place where children learn to love knowledge and one another, where learning is fun and meaningful, where they learn the values of unity and respect.

As such, addressing balance in the lives of students is key for future success. We have decided to move away from exam-based learning by abolishing mid- and end of year examinations in years one, two and three. This is to shift the focus to learning-oriented assessments so that the whole development of a child can be prioritised instead, and in order for instilment of values to occur at this young age.

Providing greater balance for teachers is also key for this to work. Redundant and obsolete clerical tasks have been identified and steps are being taken to address these, such as simplifying file management and documentation, improving online

systems and data management, including for attendance marking, so removing the need to perform the task manually. School committees will ensure that other tasks not related to educating will be abolished. By relieving teachers of unnecessary duties, there will be a renewed focus on the core goal of educating young minds. Moving forward, teachers will also be supported through more professional development programmes.

These are some of our many initiatives for enhancing education in Malaysia over the coming years. A strong push to revert to some fundamentals of education is required, and will be the main catalyst for many of our actions. At the same time, we must look to best practices around the world for new, innovative ideas as education should not seek to improve within a vacuum. Schools and classrooms are just the medium, but true change will come from the larger community realising the role we all have to play collectively, no matter who we are: educators, administrative staff, parents, students, civil society, or legislators alike. Radical change and the rebalancing of our education system is the responsibility of us all. ∎

// We have decided to move away from exam-based learning in years one, two and three to shift the focus to learning-oriented assessments so that the whole development of a child can be prioritised instead."

DRIVING THE PROVISION OF QUALITY EDUCATION FOR ALL IN INDIA

Shri Prakash Javadekar, Minister of Human Resource Development in India, describes how the Indian Government is striving to provide accessible, affordable and quality education for the growing number of students in one of the world's largest education systems.

Shri Prakash Javadekar,
Minister of Human Resource
Development, India

❝ Significant efforts have been taken across both school and higher education systems to ensure that everyone has equal access to education and quality outcomes.**"**

Education is recognised as one of the critical elements of national development, as it touches the lives of each and every individual. With nearly 1.57 million education institutions enrolling more than 296 million students and employing more than nine million teachers, India has one of the largest educational systems in the world. The Indian Government has initiated several reforms to realise its goal of 'Sabko Shiksha, Acchi Shiksha' in other words, quality education for all.

Significant efforts have been taken across both school and higher education systems to ensure that everyone has equal access to education and quality outcomes. Targeted interventions in favour of socially and economically weaker communities from remote rural areas are provided through a variety of measures, including: schemes offering interest subsidy on education loans, fee waivers, scholarships and 'freeships', as well as special incentives for women and particular regions. To help prevent the drop-out of girl students, Kasturba Gandhi Balika Vidhyalaya (KGBV) hostels for rural, under-privileged girls have been extended from 8th Standard up to 12th Standard. There has also been a campaign to build separate toilets for female students, as well as ramps and

toilets for students with special needs. The number of schools increased from 1.49 million in 2012-13 to 1.53 million in 2016-17, and school enrolment rose from 254.2 million in 2012-13 to over 260 million in 2015-16. Similarly, India's higher education system has also expanded, with many new universities and institutions opened since 2014. The demand for higher education has been steadily increasing, leading to massification of the sector, with a Gross Enrolment Ratio (GER) of 25.8 per cent. The Rashtriya Uchchatar Shiksha Abhiyan (RUSA) or National Higher Education Mission seeks to increase the GER to 30 per cent by 2020.

Samagra Shiksha, an integrated scheme for school education extending from preschool to class 12, aims to ensure inclusive and equitable quality education at all levels of school education. A 20 per cent increase over the current financial allocation is provided to ensure access and quality. The major interventions are: universal access including infrastructure development and retention, inclusive education, digital initiatives, library, entitlements including uniforms, textbooks, preschool education, vocational education, sports and physical education and strengthening

of teacher education and training. The Midday Meal scheme caters to more than 100 million school children and is the largest such initiative in the world, helping to increase student enrolment and improve attendance and retention.

To ensure a focus on quality, learning outcomes have been defined for the first time, to promote accountability among schools, teachers, students and parents. A change in the No Detention Policy has also enabled states to hold examinations in classes five and eight, to improve learning outcomes. The world's largest national achievement survey was conducted throughout India to provide a guide for assessment of school education and development of strategies for its improvement. A significant rationalisation of the syllabus was undertaken, along with a focus on teacher training, through which around 1.4 million untrained school teachers were trained through the SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) programme, India's own MOOCs (Massive Open Online Courses) platform. The same platform is now used to give refresher training to around 1.5 million higher education faculty in various disciplines. To promote innovative skills among students, 2,400 Atal Tinkering Labs were set up in schools, which are dedicated workspaces where students

> **" The Indian Government is developing a new education policy, founded on the five guiding pillars of: accessibility, affordability, equity, accountability and quality."**

use state-of-the-art equipment such as 3D printers, robotics and electronics development tools to spark creativity and go beyond regular curriculum and text book learning to explore skills of the future, such as design and computational thinking, adaptive learning and artificial intelligence.

The Government has launched several initiatives to promote excellence in higher education and give impetus to research, namely: the National Institutional Ranking Framework (NIRF), Impacting Research, Innovation & Technology (IMPRINT), Uchchtar Avishkar Yojna (UAY), Global Initiative of Academic Networks (GIAN), Scheme for Promoting Academic and Research Collaboration (SPARC), Prime Minister's Research Fellowship (PMRF), Smart India Hackathon, establishment of Centres of Excellence and the creation of world class institutions such as Institutes of Eminence. Special measures to enhance greater participation of girls in technical education have led to a doubling of female students in India's premier technical institutions like Indian Institutes of Technology and National Institutes of Technology, from eight to 16 per cent.

Several digital initiatives use ICT to provide aspiring learners with technology-enabled learning, at anytime and anywhere. The SWAYAM platform hosts more than 1,500 interactive online courses, covering all higher education subjects and skill sector courses to ensure that every student in the country has access to the best quality higher education at an affordable cost. SWAYAM PRABHA provides 32 high quality educational television channels Direct to Home (DTH) to students across the country, 24 hours a day, and delivers e-education in a very cost-effective manner. The National Digital Library (NDL) hosts a national repository of e-content by integrating all the existing digitised and digital contents. Similarly, Diksha platform, E-pathshaala and Shagun are the major digital initiatives in school education, enabling improved learning outcomes.

Major governance and regulatory reforms provide for greater autonomy for higher education institutions, including mandatory accreditation and undertaking of quality assurance. Good infrastructure is critical for delivering quality, and the Higher Education Financing Agency (HEFA) was created to provide long term finance to academic and research infrastructure projects.

To further strengthen education sector initiatives since 2014, under the leadership of Prime Minister Narendra Modi, the Indian Government is developing a new education policy, founded on the five guiding pillars of: accessibility, affordability, equity, accountability and quality, so that every aspiring learner can be empowered to become a productive global citizen. ∎

ACCOUNTABILITY IN EDUCATION:
Don't blame the teachers

Manos Antoninis, Director of UNESCO's Global Education Monitoring (GEM) Report, asserts that accountability is fundamental for achieving the goal of universal quality education, and disproportionate blame on any one actor for systemic educational problems can serve to widen inequality and damage learning.

Manos Antoninis,
Director, Global Education Monitoring (GEM) Report, UNESCO

> **//** The problem with blaming, rather than fixing, is that the fear of punishment reduces trust."

"*Sometimes it is very difficult to study because we do not have many books and there is a problem with security,*" Raja, aged 17, from Afghanistan, told us. "*This school is far for our teachers so I am not annoyed when they do not come. The road is dangerous and not in very good condition.*"

It's so refreshing to hear someone defend teachers. With news headlines on education repeating mentions of so many millions still illiterate and others about the billions of dollars needed to make things better, it's easy to ask: 'Who can we blame?' This is a knee-jerk reaction. But is it the right one? I am not convinced.

If a teacher does not come to school, the immediate assumption is that they're bunking work. But the extent of their responsibility for absenteeism is often exaggerated. The 2017/8 Global Education Monitoring (GEM) Report, Accountability in Education: Meeting our Commitments, showed that data on teacher absenteeism often pay no attention to why a teacher is absent, which may indeed be due to training days, school closures or other reasons beyond their control. In Indonesia, for example, 10 per cent of teachers were absent from primary school between 2013 and 2014. If you look a little closer, however, nearly half those absences were time excused for study.

An education consultant from Nigeria said to me, as we worked on our report: "Accountability is somewhat alien in my country. Once you demand accountability, the stakeholders either play the blame game or they ignore you out-rightly." His words stuck with me because they're so representative of the ways that accountability can be used incorrectly.

The blame reflex is also seen in the way that teachers are accused when students fail to meet the grades. But using student test scores to sanction teachers is holding them accountable for outcomes that, to a considerable extent, are outside of their control. Threatening them with pay cuts or career freezes just pushes teachers into a corner and makes it more likely that they will end up adjusting their behaviour to protect themselves, including by excluding the weakest learners.

As teachers keep telling us, the pressure they feel is on the rise, what with recent efforts to promote accountability in school. Decentralisation and school autonomy is ramping up calls for reporting back on progress and the onus falls on teachers. Not only does the responsibility fall on teachers, but the brunt of the problem does too. In Turkey,

> **"** A teacher is a cog in the engine of an education system, which is a government's job to design."

for instance, when students' performance was poor in their 2003 and 2006 PISA (Programme for International Student Assessment), the ministry placed the blame mainly on teachers' inability to implement the new curriculum. In Pakistan, long-suffering from severe education shortfalls, the government identified the level of teacher salaries as the crux of the problem. Because, of course, the incomparable levels of inequality and some of the lowest levels of education spending in the world have nothing to do with it?

The media can join in too sometimes, insinuating teachers as lazy or unprofessional. Journalists in countries such as Australia, Bangladesh, Oman, Saudi Arabia and South Africa often report education problems being down to teacher misconduct.

The problem with blaming, rather than fixing, is that the fear of punishment reduces trust. As far as accountability is concerned, low levels of trust will only lead to more intense forms of accountability, which further decrease the levels of trust, and so on. It is no wonder that teachers are dropping out of the workforce at such a fast pace in some countries – a survey by the UK's Guardian newspaper

showed that nearly half of England's teachers plan to leave the profession in the next five years. The solution to removing the feeling of threat is not hard: teachers should be included in working out shared aims, which would increase their motivation and ultimately their trust in the process.

Compare students in the US hunkering down for their college admission tests, or those in South Korea forking out on tuition to pass their equivalent exams, with those in Finland. Here, the accountability system is based on trust, and avoids anything high-stakes. Test scores are not used to hold primary and secondary schools or teachers to account. National assessments are instead based on a sample of schools. With a high level of trust in professors as tertiary education professionals, the country also finds it has less need for accreditation or approval processes; instead the focus is on self-evaluation and professional development.

Having analysed education systems around the world from

an accountability perspective, I am confident to say that when a government is too quick to apportion blame to others, it is deflecting attention away from its own responsibility for creating a strong, supportive education system. No single person or institution can be responsible for learning outcomes. A teacher is a cog in the engine of an education system, which is a government's job to design.

Creating space for meaningful and representative engagement can build trust and a shared understanding of respective responsibilities with all education stakeholders. Bring teachers onto policy review boards, for instance, and consult with them on policy development. However, this isn't always just down to governments. In some countries, to make that happen, the professionalism of teachers needs to improve as well. But these are tangible changes we can make happen. It's a matter of respect and trust, which is far more inviting than the alternative. ■

University Senate Building

Ahmadu Bello University was established in 1962 by the Government of the then Northern Region of Nigeria. The University was taken over by the Federal Government of Nigeria in 1975 and has since then assumed a national mandate. The vision of the University is to advance the frontiers of learning and break new grounds, through teaching, research and the dissemination of knowledge of the highest quality; to establish and foster national and international integration, development and the promotion of African traditions and cultures; to produce high-level manpower and enhance capacity-building through training & retraining, in order to meet the needs and challenges of the catchment area, Nigeria and the rest of the world.

In the almost sixty years of its existence, Ahmadu Bello University has grown to become the largest, most influential and cosmopolitan in Nigeria. Consisting of ninety-nine (99) Academic Departments, sixteen (16) Faculties, and twelve (12) Research Institutes and Specialized Centres, the

ENACTUS ABU Team at Enactus World Cup Mc-Enery Centre, Silicon Valley United State

University offers undergraduate and postgraduate courses in such diverse fields as Agriculture, Public and Business Administration, Engineering, Environmental Sciences, Education, Life and Physical Sciences, Medical and Pharmaceutical Sciences, the Humanities, Law and Social Sciences. It also has a large medical program with its own A.B.U. Teaching Hospital, one of the largest in Nigeria and Africa. Ahmadu Bello University has a population of about 45,000, two campuses and three colleges of Agriculture, together occupying 7,000 hectares of land. The University has nearly 600 professors that are part of almost 3,000 strong academic staff population and an Alumni base of nearly 500,000.

98	45,000+	500+	1	3000+	16	3	7000ha
No. of Departments	Student Population	No. of Professors	Distance Learning Centre	Academic Staff	No. of Faculties	Agricultural colleges	Land Area

Ahmadu Bello University has elaborate teaching and research infrastructure that include central science and language laboratories, Computer Based Test Centres, a Printing press, a Medical centre, dedicated 33 KVA power substation, 3 million cubic litre water reservoir, a community bank, over 2,000 staff houses, staff schools, 3 hotels, an FM radio station and a mini refinery for teaching and research. It also has a large sporting infrastructure that includes multipurpose indoor halls, a 45,000 seat stadium, tartan track, a fitness gymnasium, Olympic size swimming pool and squash courts.

The University hosts the largest agricultural complex in West Africa consisting of the Institute of Agricultural Research (IAR); the National Animal Production Research Institute (NAPRI), National Agricultural Extension Research and Liaison Services (NAERLS), Faculty of Agriculture, Faculty of Veterinary Medicine, the Veterinary Teaching Hospital and the Division of Agricultural Colleges (DAC).

Ahmadu Bello University has over 200 collaborations and linkages with reputable and high ranking institutions globally, and has received major international grants including $ 15 million from the Mac Arthur Foundation to establish 5 academic programs, and World Bank grants of nearly $10 Million between 2014 -2018 to fund two African Centres of Excellence on Neglected Tropical Diseases and Engineering Pedagogy. The University is renowned for research breakthroughs in Agriculture and Engineering, and the students have boldly participated in global research and innovation events.

REFORMING EDUCATION FOR THE AFRICA WE WANT

Head of the African Union's Education Division, Dr Beatrice Njenga, emphasises that quality education is imperative to achieve an integrated, prosperous and peaceful Africa, and updates on the progress of delivering the continent's immense education and skills revolution called for by Agenda 2063.

Dr Beatrice Njenga,
Head of the Education Division,
African Union

❞ Education is the most important tool to achieve the African Union's vision of 'an integrated, prosperous and peaceful Africa, driven by its own competent citizens and representing a dynamic force in the global arena'."

Within the African Union, we are always conscious of the fact that our member states and constituencies engage at different geographic levels. We are each part of a nation, a region, a continent and also part of the global community. Each level has its place. Coordination of actions at the various levels is of paramount importance if we are to achieve inclusive development and sustainable prosperity, including in education. We must together build education and training ecosystems that have local relevance, global competitiveness and mutual recognition.

As a continent, our collective African vision is articulated within Agenda 2063, The Africa We Want, which encapsulates seven aspirations (see below). Education is key for attaining each of the human-centred development goals and ambitions, as it is the means for unlocking, expanding and channelling the incredible human potential. As our population continues to grow ever more youthful, the value of education continues to expand.

1. The aspiration of a prosperous Africa, based on inclusive growth and sustainable development, presupposes that everyone has access to quality education. It further assumes that education is anchored in scientific discipline, developing creative and entrepreneurial minds and designed to facilitate innovation ecosystems for wealth creation.

2. An integrated continent that is politically united and reflects the ideals of Pan-Africanism and the vision of Africa's Renaissance, requires that education embodies these tenets and promotes African values.

3. An Africa of good governance, democracy, respect for human rights, justice and the rule of law, cannot happen unless people are taught throughout the education system – both in school and out of school – that anything else is intolerable.

4. A peaceful and secure Africa begins with the mind's disposition, which is nurtured through education, and within environments that are deliberately safe. We need to explore the literacies and competences required for human peace and security, perhaps including peace literacy, communication, global citizenship, Ubuntu (humanity), media literacy and financial literacy, among others.

❝❞ The threat of unemployment for our youthful population suggests that an entrepreneurial mindset is key for developing graduates capable of identifying and wresting opportunity from challenges, contributing to innovation and value chain development in major sectors."

5. An Africa with a strong cultural identity, common heritage, shared values and ethics, must be realised through an education that values African content, promotes indigenous and endogenous knowledge and African epistemologies, and imbues curricula with the appropriate values and ethics.

6. For an Africa where development is people-driven, unleashing the potential of women and youth through inclusive education and training is the ultimate tool for empowerment. However, there must be a concerted effort to ensure 100 per cent inclusion across gender, socioeconomic groups and physical ability, as well as refugees and displaced persons. Africa's youthful population presents a comparative advantage that we must invest in at all costs through transformative education and training, to leverage the potential demographic dividends.

7. Africa being a strong, united and influential global player and partner, demands that we create a distinctive African education character which enables local relevance and global leadership.

This requires strengthening intra-African collaboration, promoting indigenous knowledge and Afri-centric epistemologies so that our institutions are able to produce peculiarly African perspectives and products, and partner globally from a position of strength.

Education is the most important tool for equipping African peoples with the necessary knowledge, skills and attitudes to be able to achieve these aspirations, that make up the African Union's vision of 'an integrated, prosperous and peaceful Africa, driven by its own competent citizens and representing a dynamic force in the global arena'. Quality education is imperative if Africa is to attain this vision, generate home-grown solutions to African challenges, and fully participate in, and influence the global knowledge economy.

The African Union's Continental Education Strategy for Africa (CESA 16-25) reinforces the need to strengthen human capacity development at all levels and in all fields, to put empowered populations at the centre of attaining the African vision. CESA expounds on, and reflects, the education requirements of Agenda 2063, which envisages

developing world class human capital to drive Africa's economic and technological transformation, through universal access to quality education. Strategic investments from early childhood education through primary, secondary, technical and vocational education and training (TVET) and higher education, are expected to provoke a true renaissance, underpinned by science, technology, research and innovation. In the Africa of 2063, at least 70 per cent of all high school graduates will have access to tertiary education with 70 per cent of them graduating in the sciences, technology and innovation programmes.

The challenges of achieving the education and skills revolution called for by Agenda 2063 are immense. We therefore cannot afford to be side-tracked by other people's visions, but we continue to seek out and engage with those of a compatible and complementary outlook.

Reviewing and promoting alignment between global and continental goals and priorities in education is necessary for ensuring that our initiatives and investments are not scattered, but are directed towards a clear home grown vision.

The African Union's first Innovating Education in Africa Expo in October 2018, Senegal, showcased technical and social innovations in every area of education and training.

Agenda 2063 and 21st century demands are placing education provision in Africa under tremendous pressure to expand, to accommodate the increasing numbers of students seeking access at all levels. Inclusive access means that no child, male or female, should be left out, including those challenged with disabilities or other social disadvantage. The threat of unemployment for our youthful population suggests that an entrepreneurial mindset is key for developing graduates capable of identifying and wresting opportunity from challenges, contributing to innovation and value chain development in major sectors such as agriculture, mineral resource beneficiation and the service industry.

We need to identify education innovations that are helping to ensure access, quality and relevance, and endeavour to scale them up through shared experiences and targeted investments. Information and communication technologies present unprecedented opportunities for innovation, if their availability can be enhanced within conducive policy environments, with strategic linkages between education and industry. For this reason, the African Union Commission has established the

Innovating Education in Africa (IEA Expo) initiative, which brings together innovators, innovations, policy makers and the private sector, to celebrate innovators and provide a platform for experience sharing, and an opportunity to link innovators to potential funding for growing education enterprises. The outcome of the first IEA Expo includes a Handbook of Education Innovations in Africa and an e-network of African education innovators, to share relevant initiatives that address education challenges, capitalise on opportunities and promote quality and inclusion in education in Africa.

There is also a need to provide more flexible educational systems for learners. Open, distance and e-learning (ODeL), with its multifaceted formats, provides a most viable additional option for those seeking higher education and continued learning. One of the flagship projects of Agenda 2063, the Pan-African Virtual and E-University (PAVEU), aims to capitalise on the digital revolution and global knowledge to multiply access to higher education, simultaneously reaching large numbers of students and professionals in multiple sites, at any time and in any place.

The African Union's Teacher Award was established to encourage teachers

and raise the profile and status of teaching as a profession. In order to make better use of the teacher resource across Africa, the African Union is working on the continental teacher mobility protocol that will provide a framework for sharing of the teacher resource through an African Teachers Without Borders scheme. But, we must also do more to assure quality and professionalism in teaching, hence the African Union's initiative to develop continental qualification frameworks, as well as guidelines and standards for the teaching profession.

The partnership between the African Union and global agencies needs to be strengthened and managed towards ensuring the best outcomes for our member states, while staying focused on the collective continental vision. Every positive initiative involving any group of our member states has the potential to reach all of Africa if the various agencies partner with the African Union. The Thematic Cluster mechanism brings together agencies working in education in Africa to enhance coordination and open up the possibility of alignment towards a common vision. This is the only way to ensure efficiency in resource use, and progress towards the Africa We Want in a fairer world. ∎

EGERTON UNIVERSITY

Lord Maurice Egerton of Tatton (4th August, 1874 - 30th Januray, 1958

Egerton University is a chartered public University located approximately 182 kilometres northwest of Kenya's capital city Nairobi.

Since its inception in 1939 by Lord Maurice Egerton of Tatton, a British national, the University has over the years registered phenomenal growth culminating in its full-fledged status following enactment of *Egerton University Act of 1987. The Universities Act No. 42 of 2012* saw the institution chartered afresh. Up to 55% of the University's annual budget is financed by the Kenyan Government while 45% is generated from student enrolment and resource mobilization efforts.

Egerton University has developed a 100 year Master Plan (2018 - 2118) and a five year Strategic Plan (2018 - 2023) to guide its development in realising its vision. We plan to increase research activities to addresss national problems that present developmental challenges in communities. In this regard the University aligns its wide array of programmes offered at diploma, undergraduate and postgraduate levels to encompass **Kenya's Vision 2030** and the **Sustainable Development Goals (SDGs).**

Artistic impression of proposed library

Prof. Rose A. Mwonya

Over the years Egerton University has established a series of local and international partnerships and linkages in research, teaching and industry. To be able to achieve these goals the University has prioritised development of its infrastructural facilitates to world class standards to support research, technology transfer, quality of training and education in agricultural programmes. Currently the type and quality of facilities to achieve the above goal are not adequate.

We wish to invite partnerships from well-wishers who share our vison of advancement of humanity. We call for support to establish a modern library that will not only support learning but also serve as **Agritech Hub** for small scale farmers in food security. We equally need to build and equip research laboratories to support agricultural programmes and activities by the University.

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"Transforming Lives through Quality Education"

Egerton University is ISO 9001:2008 Certified

AN INTERVIEW WITH...

Professor Francis Ogbonnaya Otunta, Vice Chancellor, Michael Okpara University of Agriculture

Professor Francis Ogbonnaya Otunta has served as Vice Chancellor of Nigeria's Michael Okpara University of Agriculture, Umudike (MOUAU) since 2016. The mathematics professor is a distinguished scholar and administrator and strives for the agriculture university to be ranked among the best in the world. In this brief interview, we discuss his vision for MOUAU and how the university is helping Nigeria ensure self-sufficiency in food and fibre production.

Q: What role do you see MOUAU having in helping to achieve the Sustainable Development Goals and the socio-economic development of Nigeria?
A: As a specialist university of agriculture, MOUAU is committed to the training of a skilled and innovative workforce aimed at transforming Nigerian's abundant agricultural resources into goods and services, driven by entrepreneurship as well as ICTs to positively affect the economy and thus the quality of life of the Nigerian populace.

MOUAU has a robust platform that stimulates enduring and mutually beneficial collaborations with the view of addressing both short term and long term challenges of developmental processes in Nigeria.

Q: How is the university developing its curriculum to reflect current and future global challenges?
A: Curriculum development involves considering the demands and challenges for the improvement of the programmes and the implementation of solutions and alternatives for learners within the context of their various domains. The university has a Curriculum Review Committee that provides advice and guidance on good practices in curriculum and assessment development in support of the University's Strategic Goals. The team develops and updates the overall university curricula.

Q: You are keen for the university to develop partnerships, for example with the Ministry of Education and the private sector. Why is this?
A: Public-private partnerships (PPPs) are a contemporary strategy for meeting development goals. Institutions and research groups explore and create opportunities to connect researchers. This allows them to establish collaborative projects and to link researchers with projects at national laboratories and research centres run by governments and the private sector. The purpose is to accelerate the transfer of knowledge and skills for social and economic development.

Q: MOUAU appears to be embracing e-learning. Why is this?
A: E-learning has many benefits. It encourages learners to have computer and internet skills; the contents are reusable; it helps to collect, track and store data; and it is faster to deliver. It is an effective tool that is good for the environment and sustainable for growth.

Q: What are your ambitions for the university over the next 10 years?
A: MOUAU operates on a five yearly strategic plan. The plan forms the compass for admissions, appointments, physical development, research, etc. I have a vision of a robust, self-sustaining, research oriented centre of excellence in agricultural research and production.

Q: What are the key challenges faced by MOUAU?
A: The major problem confronting universities in Nigeria is under funding. There is also the problem of inconsistency in educational policies. These two factors have adversely affected and undermined the progress of MOUAU over the years.

Q: One of the priorities for education in Africa is inclusive and equitable education. How is the university addressing this?
A: MOUAU practises inclusiveness, which makes education available to all, regardless of gender, disability or other circumstances. The administration carries the students and staff along in its policy formulation and execution. We have robust Student Affairs and Staff Unions.

LEADERSHIP AND COLLABORATION FOR AFRICA'S EDUCATION REFORM

Shem Bodo at the Association for the Development of Education in Africa (ADEA), stresses that transforming the continent's education and training systems must be the responsibility of African ministers, but emphasises that dialogue, collective learning and collaborative action are essential to advance quality education.

Shem Bodo,
Acting Executive Secretary,
Association for the Development
of Education in Africa (ADEA)

// Quality improvement in education and training in Africa is only possible when the main actors are committed to the process."

Our founding leaders projected a pan-African vision of "an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the international arena". Unified in their desire for "a strong, united and influential global player and partner", the leaders affirmed their resolve in 2013 to ensure that in the next 50 years, Africa's development will be fully "people-driven, relying on the potential of African people, especially its women and youth, and caring for children". This is part of the African Union Commission's Agenda 2063: The Africa We Want.

Education is poised to play a key role in the realisation of this vision, but for it to happen, Africa must be in control of transforming its education and training system. In the Continental Education Strategy for Africa 2016-2025 (CESA 16-25), the vehicle used to translate the African vision into reality, in increments of 10 years, aims to "reorient Africa's education and training systems to meet the knowledge, competencies, skills,

innovation and creativity required to nurture African core values and promote sustainable development at the national, sub-regional and continental levels". A key pillar of the CESA 16-25 implementation is the formation of strong partnerships between government, civil society and the private sector. This is in addition to recognising that the ownership, domestication and implementation of CESA 16-25 rests with the ministers in charge of education and training, in close cooperation and collaboration with bi- and multilateral development agencies and other players in the development sector.

The ADEA is a technical partner of the African Union in supporting and monitoring the implementation of CESA 16-25. Under its new Strategic Plan 2018-2022, ADEA is committed to the transformation of education and training in African countries, with a vision of achieving "high-quality African education and training geared towards the promotion of critical knowledge and skills for accelerated and sustainable development in

ADEA encourages dialogue and collaboration to improve education and training systems in Africa.

Africa". In this regard, it serves as a thought leader and catalyst in education development and transformation on the continent. The association is committed to the guiding principles of African ownership, equal and multi-partnership, mutual trust and value-driven education systems.

In its vision to promote dialogue for education and leadership, ADEA has put in place the Inter-Country Quality Nodes (ICQNs) with the main objective of bringing together countries facing similar challenges with strategic partners that have expertise in a specific field, to promote dialogue, collective learning and space for collaborative action. The ICQNs serve as catalysts in the process of accumulation of information on innovative educational experiences in Africa and for the implementation of the lessons that each country or group of countries draws from those experiences to improve their own programmes. They take a joint problem-solving approach supported by one or more specialised national and/or regional institutions allied with a strategic partner such as an expert international institution.

ICQNs are built on the assumption that quality improvement in education and training in Africa is only possible when the main actors are committed to the process. This commitment is

> **"** In its vision to promote dialogue for education and leadership, ADEA has put in place the Inter-Country Quality Nodes (ICQNs) with the main objective of bringing together countries facing similar challenges with strategic partners that have expertise in a specific field, to promote dialogue, collective learning and space for collaborative action."

evident when the people, organisations and institutions involved have a sense of ownership of the learning that is central to every change process. Such ownership is generally reflected in the strengthening of capacities at the country level. An equally important assumption underpinning ICQNs is that sub-regional and regional cooperation is key to providing solutions to common challenges and also pooling human and financial resources that no individual country can fully mobilise. To that effect, ICQNs work closely with Regional Economic Communities (RECs).

In line with its strategy of using existing networks to act as clusters or members of other clusters in championing the implementation of the continental frameworks and strategies, the African Union has recognised ADEA's ICQNs as a good model for facilitating the CESA

16-25 implementation process. The existing ICQNs, spread across the African continent, have demonstrated a positive impact on national policy reforms and programmes of their member countries – below are some examples.

The Kenya-led ICQN on Peace Education supports African countries in formulating and implementing peace education policies and strategies by means of innovative, responsive and strategic partnerships with stakeholders. The ICQN recently completed work in Kenya and Liberia on prevention and management of emerging forms of violence in learning institutions. The programme reached more than 20 schools and trained 230 teachers, 93 parents, 116 non-teaching staff and 352 peer educators. Through the peer educators, 6,141 learners participated in a minimum of 10 dialogue forums, equipping them with

ICQN-TVSD Workshop Education and Training Continuum, Nov. 6-7, 2017 Abidjan, Côte d'Ivoire.

skills for prevention and management of emerging forms of violence including violent extremism.

Hosted in Burkina Faso, the ICQN on Literacy and National Languages promotes improved literacy through innovative strategies that include curriculum reform with consideration for emerging issues, multilingualism, local knowledge and inclusive education. The practice of transfers and customised training are innovations that lead to more enthusiasm among learners. Benin, Burkina Faso, Chad, Mali, Mauritania, Niger and Togo have all implemented a Regional Educational Program for Pastoral Populations in Cross-Border Zones.

Over the past three years, the Cote d'Ivoire-led ICQN on Technical and Vocational Skills Development has successfully organised and conducted technical meetings and ministerial conferences around training trainers and entrepreneurs, and on the education-training-work continuum, producing a compendium of country promising practices. The ICQN plays a strategic role for the African continent by virtue of the 20-strong member countries that participate in its activities. All of these countries have appreciated the importance of investing in policies on young people's skills and their inclusion in the job

market, largely owing to the work of the ICQN.

Teachers play a critical role in advancing quality education, and thus are a crucial ingredient to suitable and inclusive development. Together with the Network of African Learning Assessments (NALA) group, the ICQN on Teaching and Learning – led and hosted by Rwanda – trained assessment officials on continuous based assessment and psychometrics in assessment, as well as competency based curriculum. Seven countries (Botswana, Burkina Faso, Côte d'Ivoire, Rwanda, Senegal, Zambia and Zimbabwe) and over 50 participants including teachers' trainers, assessment officials and civil society organisations, participated and enhanced their knowledge in elements of assessment that contribute to the empowerment of teachers in supporting the improvement of learning outcomes from the classroom level up.

As part of expanding early childhood care and the education

> **II** ADEA ICQNs have proved to be a great value proposition in entrenching country leadership and ownership for sustainable development through education. "

workforce in Africa, the ICQN on Early Childhood Development under the leadership of Mauritius convened experts in a consultative meeting on training and career pathing in an African context. The meeting comprised a core group of thinkers including government officials from: Kenya, Lesotho, Liberia, Malawi, Mauritius, Mozambique, Nigeria, South Africa and Zambia, as a follow up to the commitment made by African Ministers of Education in the ADEA 2017 Triennale, to expand access to quality early learning opportunities to all.

The Mathematics and Science Education ICQN, hosted in Kenya, continues to promote STEM (Science, Technology, Engineering and Maths) uptake in Africa, especially among girls and women.

In conclusion, the ADEA ICQNs have proved to be a great value proposition in entrenching country leadership and ownership for sustainable development through education. ■

UNIVERSITY OF LIMPOPO

Finding Solutions for Africa

OVERVIEW

Vision:
To be a leading African University focused on the developmental needs of its communities and epitomising academic excellence and innovativeness.

Mission:
A University which responds actively:
- To the development needs of its students, staff and communities,
- Through relevant and higher quality education and training, research and community engagement, and
- In partnership and collaboration with its stakeholders.

Values
- Accountability
- Transparency
- Integrity
- Academic Freedom
- Excellence and Professionalism

NEW RESEARCH NICHE AREAS

Indigenous Knowledge Systems
With three thematic research areas: Indigenous epistemologies, language and paradigms; complementary and indigenous medicine, as well as indigenous foods and food security.

Climate Change and Sustainability
Conduct research on climate change and sustainability issues to redress and address the impact in relation to social, environmental and economic performance globally.

Women's Health
This niche is a platform to train postgraduate students in the field of "Women's Health". This allows for expansion in the training of health professionals on various aspects of health of women, starting from adolescents in order to achieve good maternal outcomes.

Mental Health
Through this research niche we want to position the University as a centre for research on rural mental health.

Complementary and Alternative Medicine
The University is located in an area that is rich in biodiversity, with a plethora of plant species traditionally known for their medicinal benefits. This enables the University to provide leading research in medicinal plants, and a platform for cutting edge research conducted in collaboration with the communities (through traditional healers, for instance) that own the intellectual property. Collaborations in areas such as Biotechnology,

ESTABLISHED RESEARCH AREAS

Chair in Materials Modelling
This research team applies computational approaches to the science of materials in order to predict and understand the physic-chemical properties of a huge variety of materials such as minerals, alloys, polymers, oxides and materials related to energy storage technologies.

Risk and Vulnerability Science Centre
The Risk and Vulnerability Science Centre (RVSC) represents a significant step towards the realisation of the University's own mission and vision. The slogan of the RVSC is: Human Wellness in the Context of Global Change – Finding Solutions for Rural Africa. Human wellness in this context is subdivided as follows: human wellness, societal wellness, environmental wellness and economic wellness.

Chair in Green Technologies
The Chair in Green Technologies (GRTC) is concerned with the provision of research opportunities for skills development and technology transfer to a wide range of areas, including environmental management technologies, renewable energy, automation, computer programming, image analysis, plant biology, plant protection, plant genetics and plant breeding. The GTRC provides a national facility with very high throughput automation and imaging systems, for the rapid development of new crop varieties of products intended for climate-smart agriculture.

Chair in Ecosystem Health
The Chair focuses on ecosystem health and the effects of water pollution on organisms, as well as the functioning of the aquatic ecosystems. The team's research also includes biomarkers of fish health, the effect of increased levels of metals on fish, human health risk after consuming contaminated fish, water and sediment quality, health assessment of fish, stable isotopes in aquatic food webs, as well as the effect of parasites on their host and pathology.

DIMAMO Health and Demographic Surveillance System
The project is part of the South African Population Research Infrastructure Network (SAPRIN) that seeks to shrink the bane of social-economic challenges through high-end quality research. The HDSS targets a population of about 100,000.

Limpopo Agro-Food Technology Station
LATS seeks to improve Small Micro Medium Enterprises (SMME) agro-processing services by means of using cutting edge technologies. It offers a wide range of scientific and technical services to the SMME's, agricultural co-operation and food industries in developing, enhancing and maintaining safe, efficient and cost-effective food production.

COMPUTATIONAL MODELLING OF MATERIALS

Project Leader:
Prof PE Ngoepe

- The Materials Modelling Centre (MMC) at the University of Limpopo has employed computational modelling, a third emerging scientific methodology, for predicting and optimising properties of materials.

- The South African Research Chair, occupied by Professor Phuti Ngoepe, has created space for extending high performance computing approach to value addition of minerals and diversification of energy sources. Different modelling time and length scales are employed on computing infrastructure at MMC and the National Centre for High Performance Computing, in Cape Town.

- High energy density batteries are central to development of electric vehicles, solar energy storage and support of the electricity grid. Their enhanced performance is achieved with nano-architectured electrodes, and the MMC has developed some world leading approaches of modelling such nanostructures for lithium-ion batteries and beyond. The models imitate and predict processes occurring in reactors of pilot and production plants for electrode materials. They further enable prediction of resulting performance, such as fast charge and life length of batteries.

- Efficient mineral processing methods, which address challenges of water, energy and environmental conservation in the mining sector are becoming imperative. The MMC studies mineral surface properties by first principles, semi-empirical and empirical methods and predict and design reagents that optimise recoveries of sulphides from ores, especially the precious group metals.

- The MMC investigates phase stabilities of precious and light metal alloys from a combination of energetics, elastic and vibrational properties. The approach has provided valuable information for aerospace applications, shape memory devices and powder metallurgy processing.

- The research of all these themes has been conducted in collaboration with universities, national laboratories and industries, locally and internationally, particularly the UK, USA, Japan and China. Research contributions have generated many publications and presentations at local and international conferences, with several keynote addresses. More than 50 MSc and PhD students have graduated and have won presentation awards at local and international conferences. Staff in the MMC, which include emerging researchers, have been awarded numerous national accolades and have contributed to science policy development in South Africa.

LEFT:
Ms Beauty Shibiri, an MSc student in MMC, was awarded a prize for best poster presentation at the European Defect in Insulating Materials Conference, at Bydgoszcz, Poland in July 2018, and the best MSc poster presentation at the Centre for High Performance Computing Conference in Cape Town, December 2018

RIGHT:
Science Diplomacy Award - 2017 awarded to Professor Phuti Ngoepe at the Science Forum South Africa, in Pretoria

THE STATE OF BASIC EDUCATION IN AFRICA

Dr Sajitha Bashir at the World Bank discusses the considerable progress that African countries of the Commonwealth have made in boosting primary and lower secondary school enrolment, but highlights the vast challenges that still exist and considers strategies to reach the goal of universal basic education of quality across the continent.

Dr Sajitha Bashir,
Education Sector Manager for
Eastern and Southern Africa Region,
World Bank

// What is needed is to bridge the implementation gap from plans and strategies to ensuring effective service delivery at the school level and to address inequalities in the provision of schooling resources."

The UN Sustainable Development Goal for education, to which all countries have subscribed, requires that by 2030, all children complete "quality primary and secondary education leading to relevant and effective learning outcomes". Despite substantial progress since the mid 1990s, sub-Saharan African (SSA) countries are still far from realising this goal. However, determined actions in a few areas can help change this trajectory. What is needed is to bridge the implementation gap from plans and strategies to ensuring effective service delivery at the school level and to address inequalities in the provision of schooling resources.

A 2018 World Bank publication reported that the majority of Commonwealth African countries have ensured universal primary enrolment, and reduced their proportion of out-of-school children. The exceptions to this are The Gambia, Mozambique, Nigeria, Sierra Leone and Zambia, where the proportion of out-of-school children remains close to 30 per cent, even though the primary Gross Enrolment Ratio (GER) is close to or exceeds 100 per cent. No Commonwealth country is in the 'delayed' group of countries, where in most cases the primary GER is substantially below 100 per cent, and the out-of-school children rate is higher than 20 per cent, but often exceeding 40 per cent. This

latter group mostly comprises countries in the Sahel and/or those that have been affected by prolonged conflict.

Since the early 2000s, progress on enrolment in lower secondary education (grades 7-9) has also been noteworthy, although there is substantial variation between countries. Commonwealth countries are, on the whole, doing better, with eight of the 19 attaining between 80-100 per cent coverage. Those lagging behind include several in East Africa, such as Malawi, Mozambique and Uganda, as well as Cameroon. Clearly, the priority in terms of quantitative expansion in the coming decade will be the provision of universal lower secondary education.

Learning levels among children in school are alarmingly low. However, the countries that have succeeded in universalising primary and basic education perform relatively better in comparative learning assessments, suggesting that there is not necessarily a trade-off between quantity and quality. As long as expansion and increasing coverage is done in a systematic manner, there need not be a collapse in standards of quality.

An indication of the distance that needs to be covered in improving learning is provided by the relatively well-performing Commonwealth country, Kenya, which has universalised primary education and has relatively high levels of

In Nigeria, the proportion of out-of-school children remains close to 20 per cent.

❚❚ A relentless focus on learning is required in the coming years if sub-Saharan African countries are to exploit the full potential of education for their young people."

coverage at the lower secondary level. At the end of fourth grade, about 26 per cent of children could read a paragraph – this would be the proficiency level expected of students who would, in subsequent years, need to rely on textbooks and other written information for making further progress. Three countries – Botswana, Ghana and South Africa – have participated in the Trends in International Mathematics and Science Study (TIMSS). While there has been some improvement in the performance of South Africa and Ghana (the latter did not participate in the most recent 2015 survey), the average score is below the lower international benchmark.

Many SSA countries have adopted the policy of free, universal lower secondary education. Paying attention to implementation of this policy requires overcoming critical bottlenecks in keeping children in school. These typically occur at two points. The first choke point is in the early grades (grades 1-3), where many children repeat grades, class sizes are typically more than 80, and the majority of children acquire very few competencies to continue meaningful education. A focus on implementation requires monitoring children's on-time enrolment in grade 1, their regular attendance in class, reducing class sizes

to reasonable levels, training teachers to teach early literacy and numeracy skills, adequate learning materials, and teaching in a language that children can understand. A second choke point is the transition between primary and lower secondary (usually at grade 6 or 7), where a significant number of poor children, rural children and girls are not able to continue with schooling due to supply and demand factors. The most critical actions are to ensure provision of secondary schools near rural communities, sanitary facilities for girls, abolish selection examinations at the end of the primary school, reduce the private costs for poor children, and overcome practices such as child marriage.

A relentless focus on learning is required in the coming years if SSA countries are to exploit the full potential of education for their young people. Here again, the relevant Ministries of Education would need to shift their energies towards ensuring that change is happening at the school level and that all schools have the conditions and resources that are necessary for learning to take place. The recruitment, deployment, continuing professional support and accountability of teachers is one of the biggest challenges facing African countries. Ensuring a minimum package

of facilities for all SSA schools will be essential to reduce the large inequalities in schooling conditions. This requires determining the minimum package (in line with the resources of the country), ensuring that it is budgeted and actually delivered to schools. Increasing the share of non-salary expenditures in the government budget, and developing the capacity to plan, execute and monitor the budget is critical to improving learning. Ministries of Education need to pay attention to delivering on core functions such as textbook procurement and distribution, school construction and teacher recruitment and deployment, so that learning can occur at the school level.

Imagine this: every child in sub-Saharan Africa, by the end of grade 4, is able to read and understand a paragraph, and every young person leaving the basic education cycle is able to solve problems involving percentages and proportions and read and interpret basic graphs and tables. What would the continent look like then? Now, imagine what would happen if we don't achieve these goals – generations of young people in Africa without basic skills, while the rest of the world advances. If the task of educating all children appears daunting, the social cost of not educating Africa's young people is unimaginable. ■

PROMOTING STEM EDUCATION FOR AFRICA'S DEVELOPMENT

Firmin Edouard Matoko, UNESCO's Assistant Director-General for the Africa Department, explores how improving access to quality education in science, technology, engineering and mathematics can support Africa's development through boosting the skills and competencies required for the jobs of the future.

Firmin Edouard Matoko,
Assistant Director-General for Priority Africa and External Relations, UNESCO

Science, technology, engineering and mathematics (STEM) are some of the key areas in education with the potential to improve the lives of Africans and boost socioeconomic development across the continent.

The 'Fourth Industrial Revolution' is projected to create a wide range of new jobs, ushering a growing demand for professionals with STEM skills and competencies in Africa.

However, unless efforts are made to address the mismatch between the current set of skills available within the workforce and what will be required for the future, the continent risks being left behind.

Africa's fast-growing youth population and a constantly evolving job market represent economic opportunities for modern technology. However, technology does not exist in a vacuum and needs to

❝ A particular area of concern in most African countries is the lower participation and learning achievement of girls in STEM.❞

Action on STEM Education:
The Pan-African Conference on Education (PACE), Nairobi, April 2018

In April 2018, under the auspices of UNESCO and the African Union (AU), 51 African countries (36 represented at minister level) met in Nairobi to discuss and agree the establishment of joint mechanisms for coordination, articulation and monitoring of the Sustainable Development Goal on Education (SDG 4) and the AU Comprehensive Education Strategy for Africa (CESA 16-25) agendas. The Pan-African Conference on Education (PACE 2018) also reflected on the priorities required for the development of Africa's human and social capital through an education and skills revolution, in order to realise the AU's Agenda 2063 vision of a prosperous and more equitable Africa, based on inclusive growth and sustainable development. PACE 2018 called for countries to share good practices, enhance research and intensify efforts for inclusive, transformative STEM education that propels the continent forward onto the path of 'The Africa We Want'. The following specific recommendations were made:

1. STEM education must be made available to all students and be sensitive to gender and the abilities of learners. To ensure that it translates into learning, teacher training must be reinforced, pedagogical strategies need to be revisited and appropriate consideration given to domestication of content, language of instruction and optimal use of ICT.

2. Comprehensive and well-disseminated STEM policies providing for capacity development at all levels and student mentorship should be adopted. STEM must be at the heart of the development of higher education with buy-in from the university governing bodies. STEM policies must be participative with broad stakeholder participation.

3. A network of partners should be established and promoted for an integrated, articulate and efficient action to achieve the objectives of SDG 4 and Agenda 2063 for STEM education.

4. Use STEM applied knowledge and competencies to build social and economic resilience, by designing innovative and sustainable solutions to contextual challenges in the areas of poverty alleviation, food security, endemic and infectious diseases.

be problem-solving. In order to develop world class skills, enhance access to technology and promote innovation, countries need to provide incentives and forge multi-stakeholder partnerships that promote STEM education and employability.

Last year's Pan African Conference on Education (PACE 2018) endorsed the need for countries to share good practices, enhance research and intensify efforts for inclusive, transformative STEM education. It came up with four specific recommendations in relation to STEM, as outlined in the box above.

A particular area of concern in most African countries is the lower participation and learning achievement of girls in STEM. Many cross-national learning assessments find that gender differences in academic achievement in science and mathematics begin in upper primary education, deepen in secondary education, and continue with fewer women than men enrolled in these subject areas in higher education. UNESCO's 2017 Cracking the Code report found that different education and career expectations of girls and boys, gender discrimination in the teaching and learning process, and lack of female role models (including female teachers) in STEM, are among the causal factors for such gender gaps.

Additional funding as well as boosting policies are required to adequately address the gender imbalance and promote the participation of girls and women in STEM expansion and in technical and vocational education and training (TVET) and research.

Africa's low enrolment in STEM courses and the continent's lagging mathematics and science skills are largely due to critical shortages of teachers and limited opportunities for teacher professional development. African teachers must provide learners with a scientific culture grounded in thinking and problem-solving skills, and there is a need for STEM-related regular professional teacher development programmes in both pre-service and in-service modalities.

The role of ICT to enhance access, quality and equity in STEM education is key, both through its integration in teacher training, as well as its use in teaching. The expansion of STEM-related TVET opportunities at secondary and tertiary levels that are linked to the world of work are also urgently required. ∎

// Africa's low enrolment in STEM courses and the continent's lagging mathematics and science skills are largely due to critical shortages of teachers and limited opportunities for teacher professional development."

BINDURA UNIVERSITY OF SCIENCE EDUCATION

A hub of knowledge and a beacon of excellence in teaching, research and extension services

Preamble

The university was established in 2000 following the promulgation of the Bindura University of Science Education Act, The University is located in the northern part of the country in an urban setting about 90km to the north of Harare the capital city of Zimbabwe The University is ranked number 2 in research and number 4 overall in the country.

The academic programmes are currently grouped into five faculties as follows:

- Science Education
- Science and Engineering
- Agriculture and Environmental Science
- Social Sciences and Hum,anities
- Commerce

Science, Technology, Engineering and Mathematics (STEM) and Flagship Programmes

The University runs a Science and Mathematics Teacher Training Programme sponsored by UNICEF which is producing teachers who are in demand in the region. This has helped Zimbabwe deal with the issue of brain drain of Science and mathematics teachers. The university also runs biennial International Science and Mathematics Conferences which are STEM centred.

Prof. Flavia Schlegel, UNESCO Assistant Director General of National Sciences, addressing a high level National Dialogue on STEM in 2016

Unique programmes include BSc (Hons) Optometry, BSc (Hons) Physics (specialising in Electronics and Environmental Physics and Energy Sources),BSc (Hons) Sport Science and Management, BSc (Hons) Financial Intelligence, BSc (Police and Security Studies), BSc (Hons) Agriculturural Engineering, BSc (Hons) Electronic Engineering, BSc (Hons) Information Technology, BSc (Hons) Safety, Health and Environmental Management, BSc (Hons) Social Work, BSc(Hons) in Peace and Governance. The University offers MSc in Food Security and Sustainable Agriculture, Climate Change and Sustainable Development, Peace and Governance, International Relations and Doctoral programmes in all disciplines. The University also runs annual National Science and Mathematics Olympiads for 'O' level and 'A' level students.

Centre for Food Security and Climate Change

The University has a centre for Food Security and Climate Change and runs International Food Security and Climate Change conferences bienially, the first one having been held on 4-5 October 2018. The centre carries out research around Food Security, Climate Change, Adaption and Mitigation.

National Sports Academy Talentees with their Patron,
The President of Zimbabwe, His Excellency Cde Emmerson
Dambudzo Mnangagwa

National Sports Academy

The University houses the National Sports Academy whose main objective is to identify and nurture sporting talent in young people as well as prepare National Sports Teams for regional and international competitions.The Sports Academy offers scholarships for talentees from disadvantaged families and supports their academic development.

The National Sports Academy presently supports 30 talentees in various sporting disciplines including soccer, athletics and chess. The talentees have participated in domestic, regional and international competitions inColombia, Algeria, Nigeria, Finland and the 2018 Youth Olympics in Argentina.

The University seeks partnerships in all its programmes including infrastructure development.

The President of the Republic of Zimbabwe, His Excellency Cde
Emmerson Dambudzo Mnangagwa unveiling the National Sports
Academy plaque in June 2018 flanked by the Minister of Higher and
Tertiary Education, Science and Technology Development, Hon. Prof.
Amon Murwira (Right) and the Vice Chancellor, Prof. Eddie Mwenje (left)

BSc (Hon) Degree in Optometry students in the lab

Bindura University Library commissioned in 2016

Partnerships with other Universities and Professional associations

The University has partnerships with several research, academic and professional associations including a joint degree awarding relationship with the University of Mauritus and ACCA, among other professional associations. BUSE is a member of the Zimbabwe Universities Vice Chancellor Association (ZUVCA), Association of African Universities (AAU), Association of Commonwealth Universities (ACU), Southern African Regional Universities Association (SARUA) and International Association of Universities (IAU).

The future plans for the University include the introduction of the faculties of medicine, engineering, and mining. Preliminary work has been done and some degree programmes under these faculties are already running.

◆ www.buse.zw

TRANSFORMING HIGHER EDUCATION SYSTEMS IN AFRICA

Oley Dibba-Wadda of the African Development Bank describes how the rapid growth in higher education across the continent brings unique challenges to governments and development partners tasked with reforming, revitalising and funding the system.

Oley LC Dibba-Wadda,
Director, Human Capital, Youth & Skills Development, African Development Bank Group (AfDB)

// Policymakers across the region should expect further pressure to expand the tertiary education system in order to meet a rising demand."

Within recent decades, higher education has gone through a series of changes globally. This is particularly so for the African continent, which has recorded tremendous growth in the sector. Research indicates that enrolment rates have increased by over 120 per cent, coupled with return to investment in higher education in Africa which currently stands at 21 per cent. According to a 2015 report by the Africa-America Institute (AAI), this makes Africa the fastest growing continent in terms of its higher education sector. The growth in the sector has created significant benefits, including better employment opportunities, improved quality of life and greater economic growth. However, the Association of African Universities believes this growth has also stretched the demand for higher education within some regions and negatively impacted on the quality of training.

With the exponential growth of Africa's young population, increasing enrolment and completion rates in secondary education, and the prevailing social stigma attached to technical vocational education training as an alternative path to better employment opportunities, policymakers across the region should expect further pressure to expand the tertiary education system in order to meet the rising demand.

At the same time, higher education in Africa remains significantly underfunded, with most countries spending less than the recommended one per cent of national GDP. The substantial external finance directed to the continent over the last two decades has been steadily shrinking, and the African Education Fund Feasibility study estimates that Africa will need an additional US$40 billion by 2030 to finance education, in order to achieve the Sustainable Development Goals for education. Compounding the problem is the fact that higher education is the most capital-intensive of education sectors. For many countries across the continent, it is extremely difficult to secure adequate funding for tertiary education. For instance, research conducted in 16 African nations – nine of which are Commonwealth members – reveals that public expenditure on tertiary level students amounts to one to ten times that of a secondary level student. It is vital that countries are able to reform and transform higher education in the most cost effective and strategic ways, in order

> **"** It is vital that countries are able to reform and transform higher education in the most cost effective and strategic ways."

to make it sustainably responsive, whilst allowing policy makers to progressively spend more on the secondary level that supplies its intake.

To transform and revitalise Africa's higher education, it is important to capitalise on some key reforms that led to the significant growth of the subsector over the years. These include: the gradual transition from state-funded higher institutions of learning to more self-sustaining models, the privatisation of several public institutions, and the promotion of the private sector's participation in higher education. These reforms have led to an increase in resources for the sector and encouraged the diversification of providers, programmes and sources of funding. Despite the high cost of private education and positive economic growth, coupled with improved household incomes and better employment prospects, there is increased capacity and willingness of Africans to invest in quality higher education. A report by UNESCO and the International Institute for Educational Planning (IIEP) claims this has fuelled a new wave of private sector growth at an unprecedented pace.

Policy makers are now faced with the challenging task of making quality private higher education more affordable, as well as improving the quality of public-funded higher education. In this context, there is an urgent need to increase funding for public higher education while improving cost-effectiveness, and to strengthen the regulatory framework to monitor quality and affordability of private higher education. In addition, governments should leverage the deep knowledge and research generated by the sector to inform policy reform. African governments and development partners must consider other innovative mechanisms to support higher education that are in line with the way the world is rapidly changing, and the onset of the Fourth Industrial Revolution. Governments need to explore avenues for using Information and Communication Technology (ICT) as a tool for management and quality delivery of higher education. Distance learning and open learning are two ways that ICT can offer cost-effective sharing of resources, support quality access to underserved communities and equalise opportunities to learn and enhance affordability.

As the major multilateral development bank financing Africa's development, the African Development Bank (AfDB) has played a key role in improving the education sector. While supporting it as a whole, AfDB has prioritised investment in higher education and technical and vocational training across the continent. In 2008, AfDB launched its Higher Education Science and Technology Strategy, and in 2014, AfDB again reinforced its efforts in supporting higher education, particularly in Science, Technology and Innovation (STI), with the launch of its Human Capital Strategy 2014-2018.

Thus, between 2014 and 2017, AfDB executed 32 initiatives that contributed to upscaling skills and technology in 19 African countries including the Commonwealth states of Botswana, Ghana, Kenya, Malawi, Namibia, Rwanda, Tanzania, Uganda and Zambia. Half a million people benefitted from better access to education in 2017 from AfDB's operations across the continent. UNESCO Institute for Statistics data show that the share of higher education students enrolled in Science Technology Engineering and Mathematics (STEM) education rose from 30 per cent in 2010 to 38.5 per cent in 2017.

The higher education agenda remains at the heart of AfDB's efforts to enhance human capital for Africa's economic transformation in the context of the Bank's High Five operational priorities: Feed Africa, Power Africa, Industrialise Africa, Integrate Africa, and Improve the Quality of Life for the People of Africa. ■

> **"** The higher education agenda remains at the heart of AfDB's efforts to enhance human capital for Africa's economic transformation."

..about **MIDLANDS STATE UNIVERSITY**

Faculties of Commerce, Law and Graduate School of
Business Leadership Campus

MSU Vice-Chancellor,
Professor Victor Ngonidzashe Muzvidziwa

Established in 1999 through an Act of Parliament, Midlands State University (MSU) is one of Zimbabwe's leading public tertiary institutions. The University has grown phenomenally over the years, both in terms of student and staff population, as well as the range of disciplines offered. At inception, MSU had an enrolment of 400 students in six faculties (Arts, Commerce, Education, Natural Resources Management & Agriculture, Science & Technology and Social Sciences) and 650 staff members.

Propelled by a passion for excellence and under the astute leadership of the new Vice Chancellor, Professor Victor N. Muzvidziwa, who assumed office in 2017, presently the University has a staff complement of over 2,800 and boasts a total enrolment of 23,900 students across nine faculties, namely: Arts, Commerce, Education, Law, Medicine, Mining and Mineral Processing Engineering, Natural Resources Management and Agriculture, Science and Technology and Social Sciences. Additionally, the

University has a vibrant Graduate School of Business Leadership, the only one in the country that offers MBAs and EMBAs accredited by the Association of African Business Schools (AABS), Association of MBAs, in addition to being a member of the Central and East European Management and Development Association (CEEMAN).

Pursuant to its vision to be a unique development-oriented, pace-setting and stakeholder-driven University that produces innovative, enterprising and

internationally acclaimed graduates for the empowerment of society and creation of wealth, the University has five campuses in Gweru, Harare and Zvishavane. A sixth campus, which will house the Faculty of Law and Faculty of Natural Resources Management & Agriculture is currently under construction in the city of Kwekwe. The multi-campus approach that was adopted by the University has greatly increased access to higher education for many sections of the community, over and above contributing to the University's expansion beyond the initial one campus in Gweru.

Guided by the national economic development blueprint, Zim-Asset, Midlands State University is driven by a Comprehensive Strategic Plan, which details a road map of the University's developmental agenda for the next five years. The Strategic Plan is operationalised through a Result-Based Management System that comprises Six Key Result Areas namely: Governance, Leadership and Culture; Resources, Facilities and Infrastructure; Teaching and

Learning; Research, Innovations, Technology, Industrialisation and Commercialisation; Internationalisation, Competitiveness and Image and Community Engagement, Collaborations and Partnerships. The RBM System is annually operationalised though the Performance Contract System at the unit and individual levels.

To achieve its institutional goals, the University has a robust governance system, which empowers all University campuses, faculties, departments and units through the devolution of resources and decision making at all levels. To entrench its core values amongst staff and students, the University has put in place initiatives such as team building exercises, sports and culture days, as well as outside the classroom learning activities for students.

To augment the main sources of funding, which are government grants and student fees, the University has established a strategic business unit, SODEW Investments Private Limited, to manage it commercial activities with interests in construction, agriculture, retail and textile businesses. The University has upgraded old infrastructure and constructed new facilities such as laboratories, lecture rooms, sporting facilities and student halls of residence.

> *The University has a robust governance system, which empowers all University campuses, faculties, departments and units through the devolution of resources and decision making at all levels.*

Midlands State University seeks to be a research-intensive institution that will contribute to the industrialisation and modernisation of Zimbabwe. Academic staff and postgraduate students conduct and publish cutting-edge research that has contributed to the ranking of the University. Research partnerships and collaborations with industry and other institutions are prioritised. The competitiveness and image of the University is being enhanced by the various accolades that have been received by students in regional, national and international competitions. Faculty of Law students made history by coming in first position in the Heads of Argument category in the 9th and 10th Nelson Mandela World Human Rights Moot Court Competitions, held in Geneva, Switzerland in July 2017 and 2018. The MSU BOOST ENACTUS won the national competition and went on to represent Zimbabwe in London in September 2017 and made it to the semi-finals at the World Cup. The MSU Debate Team were the 2017 African Champions and went to Mexico to represent Africa in the World Championships that were held in December 2017.

ASSURING THE QUALITY OF HIGHER EDUCATION IN AFRICA

Professor Narend Baijnath from the Council on Higher Education in South Africa, discusses three key approaches to external quality assurance of higher education institutions in Africa, and their relative merits for use in different countries.

Professor Narend Baijnath,
CEO, Council on Higher Education, South Africa

> " External quality assurance offers a means to validate the effectiveness of the systems put in place by higher education institutionsto maintain or improve the quality of their activities and educational provision."

Quality higher education is critical for the achievement of national and regional development goals in Africa. It is essential for the transformation of African society, to produce well-rounded and competent graduates with the leadership capabilities, technical skills and competencies required for nation-building, and for a service-orientated civil service. Well implemented, it generates the social and economic entrepreneurs that leverage potential and opportunities for uplifting and prosperous outcomes. Finally, but by no means exhaustively, it contributes to finding solutions to the many development challenges and problems that face the continent of Africa and the individual countries therein.

External quality assurance (EQA) offers a means to validate the effectiveness of the systems put in place by higher education institutions (HEIs) to maintain or improve the quality of their activities and educational provision. The term EQA applies to the work of an external body – which may be a quality assurance agency or any other body such as a professional council – aimed at assessing the quality assurance systems or arrangements of the HEI, or for individual programmes. EQA, while related, is different in purpose from internal quality assurance (IQA), which refers to policies and mechanisms implemented within institutions or at programme level to ensure that the institutions are fulfilling their own declared purposes, meeting the relevant requirements of particular disciplines and professions, or the regulatory prescripts emanating from EQA.

A spectrum of EQA philosophies and approaches has become established in recent years as nations have given more attention to what prevails in different jurisdictions relative to their own contexts, as well as being influenced by factors such as relevance, affordability, the maturity of their systems and policy aspirations. Following is a sketch of some key approaches.

The first approach has EQA as a mechanism for regulating the higher education system and steering it in a particular direction. The underlying philosophy is fulfilment of the moral obligation to protect students and other stakeholders from poor quality provision; and also to ensure that the provision of higher education relates to national developmental objectives and other purposes of higher education. The EQA body quality controls and regulates the educational system to ensure that the provision of higher education meets the minimum requirements for quality, and that it satisfies national educational aspirations. This perspective has found more currency in African countries that

> **"** The value of EQA and its potential impact on uplifting the quality of higher education provision and ensuring the sustainability of its higher education system is clear."

have witnessed rapid growth in private provision. Left to their own devices, private HEIs have been known to churn out graduates of poor quality, as long as they are able to maximise returns on investment. They may also have programmes that are not fit for purpose, or questions may arise about the fitness of purpose of the institution concerned.

Quality control and regulation are less popular in those African countries where higher education systems are predominantly public in character. This is because it is assumed that sufficient input steering, such as funding and planning instruments, would lead to acceptable levels of quality across the board in the public institutions, which are effectively dependent on government grants and subsidies for their sustenance.

In the second approach, EQA is a mechanism for ensuring that 'customers' of HEIs, in other words students, governments and other stakeholders, derive value for money and other resources that they invest in higher education. Underlying this is the objective of fostering accountability of institutions to students, parents or sponsors of the students, employers, public authorities and the public at large. This perspective also leans heavily towards the principles of transparency, public accountability and fitness of and for purpose. EQA systems premised

on the need to promote accountability and fitness of and for purpose are commonly implemented in countries where public provision of higher education is predominant. It is an EQA system that is well suited to countries where institutions enjoy a significant level of self-regulation and autonomy.

Accordingly, governments and/or statutory bodies responsible for regulating higher education use more indirect mechanisms for steering the higher education systems, as the aim is to promote a culture of quality from a distance, while demanding more accountability from the institutions. This approach to EQA has found approval in most African countries where institutions are required to guarantee and demonstrate value for money, and be accountable to students and other stakeholders; as well as to the public at large.

The third approach is that of development and enhancement, or continuous improvement. This approach regards EQA as a tool for empowering institutions to improve teaching and learning. Its focus is also on assisting institutions to develop and adopt formal and systematic self-assessment procedures at various levels, ranging from academic staff through to departmental, faculty and institutional levels. Typical programmes include

professionalising teaching, improving student support and development, enhancing the learning environment, and developing student and academic governance and administration. EQA that focuses on enhancement or continuous improvement is normally more effective in mature higher education systems, where there is a good foundation for quality assurance and where a quality culture is entrenched. Since a number of African countries have been independent for more than five decades and have institutions that feature in the top 500 universities worldwide, the developmental or enhancement-oriented system may be appealing to such countries.

However, it is clear that the approaches described are not mutually exclusive. Combinations of their key elements are also possible and have been adapted by many African countries. In its analysis, each jurisdiction needs to consider what is desirable, workable and affordable for its context, in line with its policy goals, and in pursuit of its declared objectives for effectiveness and efficiency in the EQA system. Whatever the ultimate approach adopted, the value of EQA and its potential impact on uplifting the quality of higher education provision and ensuring the sustainability of its higher education system is clear. ■

Campus
2, 500
hectares

Current Student Enrolment
1,881
Student

Location
Palapye **270km** **north of Gaborone**

The Botswana International University of Science and Technology (BIUST) is a Government of Botswana supported institution established through the BIUST Act (CAP 57:05) as a research intensive University that specialises in Science, Engineering and Technology at both undergraduate and post graduate (Master's and Doctoral) levels.

The University is a national strategic initiative intended to serve as a key platform for transforming Botswana's economy from being resource-based to knowledge-based through skills capacity building in Science, Engineering, and Technology. Due to its research emphasis, BIUST works with the private sector to meet emerging skills needs of the industry, as well as identifying challenges that can be solved through applied research. The University's curriculum takes into account the needs of the private sector and is driven by the mission of BIUST to contribute to the development of the economy towards a knowledge- based economy through research.

BIUST provides the best teaching and learning environment for students, educators, and researchers. The University hopes to develop an Engineering Science and Technology Research Park that would attract local, regional and international researchers to its campus. At full capacity, BIUST will enrol approximately 6,000 (six thousand) full time undergraduate and postgraduate students.

LOCATION OF BOTSWANA

Objectives:

- To provide higher education and training;
- To undertake, promote and facilitate research and scholarly investigations;
- To advance and disseminate knowledge and skills through teaching, learning and practical skills training;
- To contribute to national and international scientific and technological development;
- To support and contribute to the realisation of national economic and social development; contribute to the cultural and social life of the community;
- To advance the intellectual and human resources capacity of the international community.

Vision:

- To be a premier research-based university of science, engineering & technology internationally recognised for the quality and excellence of its teaching and learning; research and innovation and engagement.

Mission:

- Produce world class research and innovation in science, engineering and technology contributing to industry growth, development & advancement of a diversified knowledge-based economy.
- Produce tomorrow's leaders in industry and society through the provision of relevant, innovative, quality research intensive education of an international standard.
- Promote community, national, regional and international development through the transfer of the University's knowledge and the provision of its skills and expertise.

Core Values:

- Equality and Diversity;
- Sincerity and Trust;
- Innovation;
- High performance and Quality;
- Quest for knowledge and understanding

Strategic Themes:

- Academic Quality and Student Reputation.
- Research and Innovation Excellence
- Engagement for Development
- High Performance Organisation
- Ensuring Financial Sustainability and Growth to Drive Performance
- Improving Institutional Effectiveness to Drive Performance
- Developing Capabilities to Drive Performance

COUNCIL: a key objective of the University is to have in place high quality and governance structures and capacity which ensures a sound governance system that focuses on strategy, performance, value creation internal controls , quality assurance and risk management. this objective is ensured through the university Council established in terms of Section 9 of the BIUST Act. The council is the executive body of the University with a primary governance responsibility for policy-making, administration of the University, the planning of its work and the management of its resources.

SENATE: As provided for in the BIUST Act there is Senate which is the highest academic body responsible to the Council. Senate is cared by the Vice Chancellor with at least nine members drawn from the academic staff. The Senate has delegated responsibility for the academic work of the University, both teaching and research, and for the superintendence of the education and discipline of the students of the University.

EXECUTIVE MANAGEMENT TEAM: The University is run by Executive management Team (EMT) which is the apex of the University Management Structure and provides the final link between management and the University governance structures. The EMT has overall responsibility for the strategic management and operations of the University.

SENIOR MANAGEMENT TEAM: The key responsibility of the SMT is to ensure a close interface between the EMT and the Senior Academic and Directors who are responsible for the implementation of the University policies and programmes at an operational level.

STUDENT GOVERNANCE: The BIUST student Representative Council (SRC) forms part of the University governance structures and represent student interest in the Council and Senate. The SRC promotes student life including the social and Senate. The SRC promotes student life including the social and welfare needs of students through the running of societies, clubs, entertainment and sports.

BOTSWANA
Our pride, your destination

Discover your future, we drive Change

FACULTY OF ENGINEERING & TECHNOLOGY

Programmes (BEng, MEng, PhD)

- Chemical Engineering
- Civil & Environmental Engineering
- Computer & Telecommunications Engineering
- Electrical & Electronics Engineering
- Geological Engineering
- Industrial & Manufacturing Engineering
- Materials & Metallurgical Engineering
- Mechanical & Energy Engineering
- Mechatronics & Industrial Instrumentation Engineering
- Mining Engineering

FACULTY OF SCIENCES

Programmes (BSc, MSc, PhD)

- Biology & Biotechnology
- Computer Science & Software Engineering
- Earth & Environmental Sciences
- Environmental Sciences
- Forensic Science
- Geology
- Information Systems & Data Management
- Physics
- Pure & Applied Chemistry
- Pure & Applied Mathematics
- Statistics

RESEARCH PROFILE

- > Natural Resource Management
- > Climate and Society
- > Frontiers in Science
- > Innovative Technological Products and Services for Economic Development

	2017	2016
Academic Staff Qualifications (% with PhDs)	100	100
Research Income (% of University income)	0.31	0.49
Publications per academic staff	0.63	0.5

STRATEGIC PARTNERSHIPS

1. AKITA University (AU), Japan – Staff and Student Exchange Programme
2. University of Cincinnati, USA - Engineers without Borders Programme.
3. University of Botswana (Confucius Institute) - Chinese Programme
4. Universitatea Babes-Bolyai, Cluj - Napoca, Romania - Staff Exchange Programme
5. Erasmus + Programme - Staff and Student Exchange
6. iThemba Labs for Accelerator Based Science, South Africa – Use of laboratory facilities and equipment.
7. Debswana Diamond Mining Company - Collaborative Research and Student Internship
8. Botswana Defence Force - Collaborative Research and Student Internship
9. Botswana Innovation Hub - Collaborative Research, Student Internship and Commercialization.

BIUST
BOTSWANA INTERNATIONAL UNIVERSITY
OF SCIENCE & TECHNOLOGY

BIUST | Driving Change

EDUCATION REFORM IN BOTSWANA:
Towards a knowledge-based economy

Botswana's Minister of Tertiary Education, Research, Science and Technology, Thapelo Olopeng, explains how the Government is transforming education and skills training in order to drive Botswana's transition from a resource-based economy to a knowledge-based economy.

Hon Thapelo Olopeng,
Minister of Tertiary Education, Research, Science and Technology, Botswana

❝ The combined effect of the human resource development planning process and the quality assurance process is that there will be alignment between training and the skills needed in the economy."

Botswana's Vision 2036 defines where the county aspires to be by the year 2036. Its overriding goal is 'Achieving Prosperity for all' – an ambitious target that the people of Botswana have set for themselves. It is anticipated that, by 2036, the country will have advanced from an upper middle-income country to a high-income country. It is also in this context that Botswana is focussed on transforming from a resource-based economy to a knowledge-based economy. Education and training have been identified as critical drivers for attainment of the latter.

In order to guide education and training, one of the interventions adopted by the Government is the establishment of national structures responsible for planning and quality assurance. Planning for human resource development is undertaken by the Human Resource Development Council. Its core role is to plan and develop human resource in Botswana from early childhood through lifelong education, and also to prepare national human resource development plans.

On the quality assurance side, the Botswana Qualifications Authority coordinates education from early childhood to PhD level and lifelong learning. Its objectives are to provide for and maintain a national credit and qualifications framework and to coordinate the education, training and skills development quality assurance system.

The combined effect of the human resource development planning process and the quality assurance process is that there will be alignment between training and the skills needed in the economy, and it is envisaged that the combination of these will assist in the drive towards a knowledge-based economy.

The Botswana foundation level is anchored on a basic education system that generally comprises seven years of primary schooling and five years at secondary school. The education is provided by both the public and private sector. The country has made strides towards the introduction of preschool education, but this is yet to be rolled out to all primary schools; in 2018, 452 of the total 755 public primary schools offered preschool education.

The Botswana foundation level is anchored on a basic education system that generally comprises seven years of primary schooling and five years at secondary school.

❝ Botswana has made notable improvements in literacy, with the 2014 National Literacy Survey estimating the national level to be 90 per cent."

Primary school teachers are all qualified, with the majority being holders of at least a diploma level qualification. Teacher training is undertaken at both teacher training colleges and the University of Botswana. The primary school and secondary school curricula offer diverse subjects that are geared towards enabling learners to develop the necessary knowledge in different fields including science, technology and mathematics.

Botswana has made notable improvements in literacy, with the 2014 National Literacy Survey estimating the national level to be 90 per cent.

Botswana's Government provides a Grant-Loan Scheme for learners to pursue tertiary, or post-secondary education and around 10,000 new such sponsorships are provided. This has ensured access and participation for the majority of learners who would otherwise be unable to pay for it. At the beginning of 2017, around 60,000 students had enrolled in a number of programmes ranging from diplomas to Doctor of Philosophy.

Technical and vocational education is now also part of the educational landscape as the Government has prioritised development of the necessary skills required to drive the economy. Learners are accorded the opportunity to pursue this route, with training in technical and vocational education being provided by both public and private institutions. As of 2017, there were 6,717 learners enrolled in vocational institutions and 4,344 enrolled in technical colleges.

The Government recognises that education plays a critical role in the development and growth of Botswana. Although the recent global recession affected the implementation of our National Development Plans, we are taking a deliberate stance to invest heavily in the education sector and we are steadfastly fixed on Vision 2036 and 'Achieving Prosperity for all'. ∎

University of Agriculture Makurdi

Innovation and Service

The Federal University of Agriculture, Makurdi, located in Benue State, is one of the three agriculture universities established in 1988 by the Federal Government of Nigeria as part of its efforts to rapidly attain national food self-reliance and self-sufficiency through the scientific transformation of Nigerian agriculture.

From its foundation, the University has assumed a leadership role in pioneering new and innovative institutional arrangements.

A unique feature has been made of the functional integration of teaching, research and extension in forms that promote human development and capacity building in agriculture, science, engineering and technology.

MISSION

Our mission is to develop the human mind to be creative, innovative, research-orientated and committed to service, hence the University motto:

"Innovation and Service"

The ultimate goal is to strengthen Nigeria's capacity for training, the research and development for integrated planning and the use of agricultural systems, sciences, engineering and technology. The major thrust is the mobilisation of resources for the sustainable transformation of Nigerian agriculture within the production, processing, storage, marketing and utilisation frameworks of the agricultural value chain.

STRATEGIC PLAN

A 10-year Strategic Plan, running until 2027, has been developed, with distinct goals to reposition the institution for domestic and international competitiveness, and in which we aim:

- To facilitate training and research in Agriculture, Science, Engineering and Technology (ASET).

- To introduce the use of information technologies in ASET and in e-governance systems.

- To promote gender equality within access to ASET training and the administrative facilities of the University. Analysis of the gender balance in ASET in Nigeria, and indeed Africa, shows that there are still very few women scientists in research academic and administrative positions.

- To develop a mission-orientated agricultural research system with a specific focus on the practical problems of accelerated food and fibre production, storage, processing, marketing and utilisation. This shall be achieved through generation of high-yielding agricultural technologies that are sufficiently adapted and relevant to specific local environments. Researchers shall take special note of the pressing needs of farmers, agro-industrialists and consumers with respect to production, processing and storage technologies.

- To establish an energetic outreach and extension services system based on a two-way "LAB to LAND" strategy. The intention is to promptly convey research results from research laboratories to farmers' fields and for relaying farmers' field problems to researchers.

- To investigate and share, both nationally and globally, scientific and technical information to address major socio-economic problems. ASET training shall be made more relevant through a conscious effort to address problems such as poverty, unemployment and the entrepreneurship skill gap.

- To provide a conducive teaching, learning, research and working environment, where staff and students interact and compete effectively with their counterparts, both domestically and globally.

- To build state-of-the-art library facilities. The University shall mobilise its own funds, as well as sourcing additional support from international agencies in order to achieve this key strategic goal.

- To implement and maintain a self-sufficient finance strategy for the University.

- To sustain the University's roadmap for food security.

- To integrate the Federal University of Agriculture, Makurdi with the implementation of the Sustainable Development Goals within Nigeria.

IMPLEMENTATION

Our Mission and the Strategic Goals are being accomplished through:

- A collegiate system encouraging multi-disciplinary teamwork.
- A curriculum emphasising practical skills, so that our students become job creators rather than job seekers on graduation.
- Our Postgraduate School, which coordinates all of our graduate study programmes.
- An administrative body organised as a series of Directorates.
- Research and development systems that are issue-oriented, needs-based, farmer-focused and agro-industry-driven, with a major emphasis on the agricultural value chain.
- The establishment of specialised Research and Outreach Centres to help bring the fruits of our research to the doors of farmers, industrialists and entrepreneurs.
- Our Institute of Food Security addresses both national and global food supply issues through a strategic plan of resource mobilisation for sustainable food security.
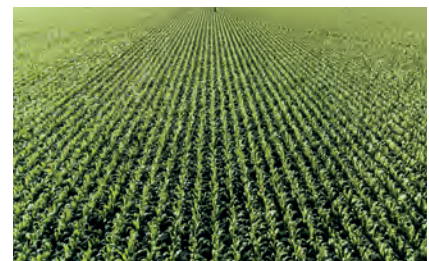
As a result of these interventions by the Federal University of Agriculture, Makurdi, and the distribution o*f new and improved technologies by us, farm productivity has increased and a 50 percent improvement in standard of living achieved* for resource-poor farmers, thus minimising hunger and food insecurity, especially within the University catchment areas.

Our Administration will continue to ensure that the key players across the University perform their roles, and that we mobilise the services and resources available to us, as well as engage with external and internal stakeholders who share with our Vision.

Through the Directorate of Linkages, a division under the Vice-Chancellor's office, the University has developed partnership arrangements with foreign universities and organisations, international and domestic agricultural research agencies and the Federal and State Governments in Nigeria.

The Federal University of Agriculture, Makurdi, is seeking more of these partnership opportunities to strengthen its food security academic programmes.

Professor A.R. Kimbir (KSM), Vice-Chancellor

WE NEED TO MAKE MORE GREAT TEACHERS

Julia Cleverdon, Vice Patron of Teach First, emphasises the hugely positive impact that great teachers have, and considers how we can attract and retain many more effective, inspirational and committed teachers across the Commonwealth.

Dame Julia Cleverdon DCVO CBE,
Vice Patron, Teach First

// While attracting the best and brightest teachers is crucial, we also need to ensure that more stay in the profession."

Achieving a great education for all is one of the UN's ambitious but vital Sustainable Development Goals (SDGs). The answer must lie with finding and developing many more great teachers. But what makes a great teacher and how can we make more of them? The UN estimates that we need an additional 69 million teachers globally by 2030. This is the limiting factor to progress, so what has worked so far and how can we scale it up globally?

Academics may debate the value of different pedagogical approaches; skills versus knowledge, group work or teacher-led, discovery or didactic. Of course, great teaching can seem hard to pin down and measure until you see it in action. I have been privileged to see the work of great teachers all over the Commonwealth: I have spent time with Shaheen Mistri, who founded Teach For India, watching the passion of young teachers teaching mindfulness and literacy with classes of 70; I have been in New Zealand with Ako Mātātupu teachers devoted to tackling the inequity gap; and I listened to Folawe Omikunle of Teach for Nigeria discussing the challenges of powering the scale needed for teacher development.

Thinking back to my own school years as a student, we instinctively knew then what made great teaching and realise the impact a lifetime later. I remember Miss Burchell, the leader at Camden School for Girls in the 60s, who drove the school motto 'Onwards and Upwards' into my generation of girls. I remember the teachers, including Mrs Kellaway, who inspired not only her English students (including me), but also her famous daughter Lucy Kellaway, the Financial Times columnist, who is now further inspiring career changers to come into teaching. The passion was contagious and the school, an inspirational place. They instilled in me the belief that you must use your talents to help make the world a better place. How have I tried to use that inspiration?

Thirty years later I was the Chief Executive of Business in the Community, one of The Prince of Wales' key charities. In 2003, deeply concerned by the performance of London schools identified by the new Labour government, we commissioned global management consulting firm McKinsey to work with Head Teachers in schools serving the poorest communities in London, to explore their difficulties in ensuring quality of teaching and leadership. They said it was about finding and developing teachers. They also reported that without Australians and South Africans on their way across the world, they would have to give up! That review spurred the founding of Teach First, with the placement of 180 high potential young graduates in London. Fifteen years later, London's educational performance outdoes the whole of the rest of UK in both exams at 16, as well as access for the poorest students to university. Teach First has

Teaching primary pupils at Filton Avenue Primary School, Bristol.

been a key contributor to this success and placed more than 5,000 teachers into London schools, many of whom are now in leadership positions.

I had the privilege of chairing Teach First for ten years, and am now Vice Patron to our Patron His Royal Highness The Prince of Wales, who takes a keen interest in the vital importance of teaching across the Commonwealth. Not only has he founded the Prince's Trust, which helps 50,000 young people a year to find their opportunity and is now growing across the Commonwealth, but he has also established the Prince's Teaching Institute. Passionate that teaching needs to be given the recognition it deserves,

this was the principal organisation involved in convening the newly formed Chartered College of Teaching, now led by Dame Alison Peacock.

The building of a movement of great teachers committed to the profession, as well as committed teachers who will focus their life's work on those young people in the poorest communities, is I believe, thankfully growing in the UK. More than a third of this year's cohort of 1,300 Teach First teachers were themselves students inspired and shaped by great Teach First teachers. In the UK, the first six students of Mulberry School in Tower Hamlets, an outstanding school led by the

inspirational Vanessa Ogden serving the Bangladeshi community, returned this year as Teach Firsters to their schools in the same community.

This virtuous circle must be one of the most important priorities across the Commonwealth. Whether in India, getting Teach for India fellows to inspire their own students as leaders of change or starting their own schools, or in Australia, concentrating on finding ways to build the cadre of indigenous teachers, perpetuating the work of these committed teachers to reinforce and deepen the benefits in the following generation is one of the greatest hopes of Teach for All, co-founded by Wendy Kopp who founded Teach for America, and Brett Wigdortz who founded Teach First. The global work is now led with passion and energy by Wendy Kopp and 48 community entrepreneurs around the world who

❘❘ A thriving network of education leadership experience and knowledge-sharing is being built throughout the Commonwealth and beyond."

HRH The Prince of Wales, Teach First's Patron (centre), with Dame Julia Cleverdon and Brett Wigdortz, Founder and former Chief Executive of Teach First, at Mulberry Academy Shoreditch, London.

manage the movement in their own countries. A thriving network of leadership experience and knowledge-sharing is being built throughout the Commonwealth and beyond.

Teach First has shown us that it is possible to attract large numbers of our most talented university graduates to teach and help solve one of our nation's biggest social problems – educational inequality. We have learnt some vital lessons in the UK about how to develop effective teachers relatively quickly, and scale evidence of what works through the work of the Education Endowment Foundation. However, while attracting the best and brightest is crucial, we also need to ensure that more stay in the profession. As part of this, teaching needs to be a financially viable option for graduates. The Organisation for Economic Co-operation and Development (OECD) found that UK teachers' salaries were up to 16 per cent lower than for comparable careers, making it harder to keep the profession attractive to our best graduates.

The retention of teachers in tough communities and isolated schools is also a significant challenge. Heavy and unrelenting workloads and a lack of professional development

" Leadership of schools, and thereby communities, is the vital flame that needs to be ignited."

opportunities add to the problem. However, we believe – as so often – the answer lies in leadership. Teach First is increasingly designing and providing training programmes to support more experienced teachers to develop and grow as leaders within schools. Leadership of schools, and thereby communities, is the vital flame that needs to be ignited because when combined with great teaching, it can help to build the retention, the motivation, the purpose and the meaning of the teaching profession.

As we contemplate on what works in building a movement to achieve SDG 4 across the Commonwealth, I reflect on a letter from Fernando Reimers, my colleague on the Teach for All Board and the most inspiring Ford Foundation Professor in International Education at Harvard Graduate School of Education. He writes:

"Last week, I had the opportunity to listen to a stimulating dialogue with Andria Zafirakous, an arts teacher

from London, who received the Global Teacher Prize awarded by the Varkey Education Foundation, to recognise the teaching profession. Andria teaches disadvantaged students, many of them immigrants, some of them refugees. In conversation with Andria she displayed a singular blend of professional knowledge, ethical commitment and inquiry mindset that are the signature of experts. The conversation with Andria left me wondering in how many communities do teachers like her receive the recognition and the support they deserve, in how many schools they are given the conditions that support effective professional practice, in how many societies teaching is a profession that will attract more candidates like her and support them to become experts so they can lead the complex but crucial work of empowering students with the competencies they need to meet the demands of our times."

These are the questions we need to focus on and the answers we now need to share. ∎

AN INTERVIEW WITH…

Professor Eddie Mwenje, Vice Chancellor, Bindura University of Science Education

Professor Eddie Mwenje has spearheaded the growth of Bindura University of Science Education (BUSE) in Zimbabwe over the last six years. The Professor is a renowned scientist, and a strategic leader and administrator, and has received numerous leadership and visionary awards. In this brief interview, we discuss his vision for BUSE and its mission to be a hub of knowledge and beacon of excellence in teaching, research and extension services, and how the university is contributing to the wider socio-economic development of Zimbabwe.

Q: BUSE has a large focus on STEM subjects, why is this?
A: When the university received its charter in 2000 through an Act of Parliament, it was mandated to focus on Science, Technology, Engineering and Mathematics (STEM) education and also to produce science teachers for Zimbabwe's secondary schools and colleges. The Government of Zimbabwe had originally sent students to train in Cuba in the areas of science. When the programme terminated in 1995, it was essential to produce well-bred scientists and science educators locally. The brain drain that took place between 2000 and 2008 as a result of an economic downturn, where the country lost over 30,000 teachers heading for green pastures in neighbouring countries also made us focus on STEM subjects to fill the void both for industry and for science teachers.

Q: What role do you see BUSE having in helping to achieve the Sustainable Development Goals and the socio-economic development of Zimbabwe?

A: The socio-economic future of Southern Africa lies in the region's ability to embrace STEM and innovation as key drivers of modernisation and industrialisation. STEM has the potential to drive economic development and assist in alleviating poverty. The provision of quality STEM education is therefore important for the attainment of the Sustainable Development Goals and the improvement of livelihoods in Zimbabwe and the region. BUSE will continue to produce graduates in STEM disciplines including the introduction of new programmes to drive the economy.

Q: How is the university developing its curriculum to reflect current and future global challenges?
A: The university has placed major focus on producing innovative, entrepreneurial, technologically sound and global graduates. This has been achieved through linkages and collaboration with industry and the community in the development of the curriculum. Bindura University has a component of international staff as well as relying on the use of external examiners and professors from reputable institutions.

Q: BUSE's mission is to be "a hub of knowledge and beacon of excellence in teaching, research and extension services". How are you achieving this?
A: We place a lot of emphasis on staff development and re-skilling, and we also have a well-established quality assurance department. Furthermore, we have encouraged both our staff and students to be involved in innovative research through the introduction of innovation grants and research mentors. Our students are also encouraged to take part in projects that address community challenges.

Q: What are your ambitions for the university over the next 10 years?
A: Bindura University is currently in the top five institutions in the country. Over the next 10 years, we want BUSE to be one of the top universities in the region that is engaged both with industry and the community and is well known for producing highly sought after graduates.

❚❚ The university has placed major focus on producing innovative, entrepreneurial, technologically sound and global graduates."

BRIDGING THE TEACHER GAP THROUGH EDUCATION AND POLICY

Head of the Secretariat of the International Task Force on Teachers for Education 2030, Edem Adubra, emphasises the need to strengthen teacher education and the development of national teacher policies to increase the number of properly trained and qualified teachers, in order to meet the goal of equitable and quality education for all.

Edem Adubra,
Head of the Secretariat,
International Task Force on
Teachers for Education 2030

" We need to look at the improvement of the teaching profession as a whole and this can only be realised within and through well-articulated national teacher policies. **"**

As Nobel Laureate, Malala Yousafzai, said: "One child, one teacher, one book, one pen can change the world".

Unfortunately, I cannot deny that we are faced with a global learning crisis. The UNESCO Institute for Statistics (UIS) estimates that 263 million – or one in five – children and youth, are out of school worldwide. Of these, approximately 17 million primary-aged children and 16 million youths live within the Commonwealth.

And if there is one thing that needs to be highlighted, it is that there is simply not enough teachers to remedy this learning crisis. According to UIS, we need to recruit 69 million more teachers by 2030. This massive shortage of teachers represents one of the main issues that must be resolved if we are to achieve Sustainable Development Goal 4 on Education (SDG4).

What can we do to bridge this 'teacher gap'?

The first logical response from anyone would be: "well, let's hire more teachers". However, increasing the number of teachers alone still poses the question of quality. Indeed, we do not just need more teachers; we need 'trained' and 'qualified' teachers.

What is the difference? A qualified teacher is one who receives an academic qualification, while a trained teacher is one who has completed the minimum organised teacher training requirements (whether during pre-service or in-service training).

UNESCO's 2019 Global Education Monitoring (GEM) Report states that 85 per cent of primary teachers globally in 2017 were trained, according to national definitions. This is a 1.5 percentage point decline since 2013.

When we look at the statistics from UIS for Small Island Developing States (SIDS), we see that 73 per cent of teachers were trained according to national standards in primary education in 2017. In secondary education, 78 per cent of teachers were trained according to national standards in 2017. Across sub-Saharan Africa's Commonwealth countries, on average, 81 per cent of teachers were trained.

One way to ensure that the teachers hired are both trained and qualified lies in strengthening teacher education. We need to guarantee that teachers go through a rigorous selection and preparation process before they enter the classroom. In Singapore, for example, trainee teachers in primary

education spend approximately 240 hours on pedagogical theory, 480 hours on teaching methods and 96 hours on language, mathematics and/or sciences. Secondary education teachers are required to complete 12-24 months of classroom experience. As teaching is a knowledge-based profession, teachers must also be supported throughout their careers to continuously update their knowledge.

However, to guarantee that the best trained teachers end up in classrooms, I believe we need to go beyond the strengthening of teacher education to improve the quality and quantity of teachers. We need to look at the improvement of the teaching profession as a whole. This can only be realised within and through well-articulated national teacher policies.

A teacher policy is a set of plans and strategies that is guided by evidence and devised to ensure high professional standards of teaching, as well as quality and inclusive learning environments. It should be aligned with the national education sector plan and priorities, and cover all dimensions of the teaching profession: teacher attraction, recruitment, education and training, professional development, working conditions, status, remuneration, deployment and governance.

This can seem like a daunting task. It is why the International Task Force on Teachers for Education 2030 has developed the Teacher Policy Development Guide to assist member states in the elaboration or review of their teacher policies. It presents an overview of how the above mentioned dimensions are interrelated, highlights issues that need to be considered in a national teacher policy, stresses stakeholder participation and suggests steps to develop and implement it.

We have been advocating for, and working towards, the development of national teacher policies for the past ten years. We provide, on request, technical support and assistance to member states on their policy work, thanks to our network of experts.

This is what we are doing in Lesotho and St Kitts and Nevis, for instance, where we have provided assistance to frame their new national teacher policies, as well as to establish National

Credit: Christiaan Triebert/Shutterstock.com

❞ It is the current generations and the future of the planet that we will save if we can ensure, today, that every child – is taught by qualified, motivated and well-supported teachers."

Teaching Councils. Indeed, in both countries, the ministries of education aim to reform and professionalise teaching. They are using the framework of the Teacher Policy Development Guide to this end.

Our purpose is to ensure that trained and qualified teachers are put into every classroom. For this to become a reality, we also collect and share data and information on teacher issues through various publications. Our flagship annual International Policy Dialogue Forum brings together hundreds of experts, researchers, academics and policy-makers to discuss current key teacher issues and research findings, and exchange experiences and best practices, making recommendations for advancing the achievement of the SDGs. Our last forum took place in Montego Bay, Jamaica in November 2018. The

theme was: 'Strengthening Teacher Education: A prerequisite for quality teaching, training and learning".

It is with great satisfaction that I see the international community putting ever more emphasis on the plight of teachers, and recognising their utmost importance to the achievement of SDG4. We now need to put this agreement into action at local, national, regional and global levels. National governments and international partners must increase the financial resources required for the development and implementation of robust, holistic and forward-looking national teacher policies. It is the current generations and the future of the planet that we will save if we can ensure, today, that every child – particularly the marginalised – is taught by qualified, motivated and well-supported teachers. ∎

NEW TECHNOLOGY TO SPEARHEAD A CLASSROOM REVOLUTION

UK Education Secretary, Damian Hinds, firmly believes that technology can transform education and revolutionise teaching and learning across the Commonwealth. He calls on the tech industry, education institutions and policy makers to work together to embrace educational technology and invest in the skills of the next generation.

Damian Hinds,
Secretary of State for Education, UK

❝ Given the huge array of tech resources available, it's hard for schools to know what represents the best investment for their precious budgets."

In 1733, a device called the 'flying shuttle' first took the local Lancashire weaving community by storm, by halving the time it took to produce a bale of cloth. It marked a seismic shift in mankind's social and economic condition, that ushered in the first industrial revolution. And while some of us are still getting to grips with the third industrial revolution (known as the 'digital revolution'), the fourth is already upon us.

The modernists call it 4IR, and it is a future where nanobots in our blood will detect diseases, the cars on our roads will be driverless and we could be 3D printing everything from furniture to bionic limbs. This revolution will blur the lines between the physical, digital and biological worlds to give us robotics, artificial intelligence, nanotechnology and the Internet of Things. Our understanding of what it is to be human is changing all the time.

New technology promises to transform our lives, making them safer, easier and healthier. It will also revolutionise how we teach and learn. These thrilling leaps in human progress present teachers with a number of challenges. They are not only charged with explaining these scientific discoveries to the generation that is going to live with them as an everyday reality, but they must also be ready to make use of cutting edge technology themselves.

So how can they do this? One of the great pleasures of my job as the UK's Education Secretary is that I spend a great deal of my time visiting schools, seeing how teachers make a subject come alive, and meeting children as they absorb all the knowledge they need for the futures they have yet to create.

I've seen technology used in revolutionary ways in classrooms: I've joined students on a virtual expedition to the rainforest, watched them steer ships from a simulated cockpit and programme robots from a desk.

Given the huge array of tech resources available, it's hard for schools to know what represents the best investment for their precious budgets.

I have been calling for a stronger partnership between the education sector and the tech giants – the

" None of us knows where tech will take us next. All we do know is that the speed of change will only accelerate."

The UK is investing £84 million over four years to improve the teaching of computer science.

Googles and the Microsofts, the innovators and the programmers – so that schools, wherever they are based, can take greater advantage of these fabulous inventions.

But it is not always about whizzy new methods to teach geography. I believe there are many ways that technology companies can help transform the sector and deliver an education revolution. One area of particular concern to me in the UK is looking at ways to bear down on teachers' workload.

At Shireland Collegiate Academy in Birmingham, for instance, the school uses a variety of apps and software packages in the day-to-day running of the school, to help with financial and administrative burdens. The technology means the school does not need to hold as many staff meetings and saves teachers hours of time, meaning they can concentrate on teaching rather than administrative chores. We need more practical solutions like this.

However smart the technology, it's people who will operate it. That's why in the UK, we want to go further than just making sure all students can work with technology. Technology has to work for us. We are investing heavily – £84 million over four years – to improve the teaching of computer science. This will help

train around 8,000 teachers so they are up-to-date with all the latest developments in the subject.

Technology can also play a huge role in helping us to offer a second chance to those people who perhaps left school without the skills and qualifications they need for the jobs they want. This is particularly crucial in today's rapidly changing jobs market.

Here in the UK, we are developing online learning tools as part of a national retraining scheme, to make sure opportunities to train and upskill are available throughout peoples' lives, and turn 'lifelong learning' from an elusive ambition into a reality. We're about to start pilot projects in construction and in educational technology and we'll be looking very closely at how the technology we are using improves outcomes for people who have already left school.

What about parts of the world where children and adults can struggle to access education? Whether because schools are too distant or even too dangerous to reach. Again, technology offers us a huge opportunity to create virtual classrooms and help people learn on their phones and other devices.

The UK is helping millions of children in developing countries through distance and mobile learning. I recently saw this in action when visiting

St Joseph's Primary School in London, to launch a wonderful initiative that joins schoolchildren around the world in a huge online learning community called Connecting Classrooms Through Global Learning. Fellow Member of Parliament, Penny Mordaunt, and I also participated in the World's Largest Lesson, which introduces the Sustainable Development Goals to children and young people all over the world and unites them in action.

Around 60 per cent of the Commonwealth's combined population is aged under 30 – that's more than one billion young people. Every country will have its own – often diverse – approach to teaching styles and syllabus, but there will also be many similar, shared challenges. We all want young people to reach their potential and make the best of themselves, and we all recognise that education is one of the smartest investments any country can make

From Ghana to the UK, to Zambia, if we want to prosper in tomorrow's world, then we all need to invest in the skills of the next generation; in our home-grown workforce.

None of us knows where tech will take us next. All we do know is that the speed of change will only accelerate. If we are flexible now, we will not only keep up but will flourish later. ∎

AN INTERVIEW WITH...

Professor Hester Klopper, Deputy Vice Chancellor, Stellenbosch University

Professor Hester Klopper is Deputy Vice Chancellor for Strategy and Internationalisation at Stellenbosch University (SU), one of South Africa's leading tertiary institutions. She is a globally renowned academic, and holds numerous positions of responsibility within international health organisations. At SU, Professor Klopper is responsible for the overall strategy of the university, the institutional research and planning division, as well as the international strategy. She relentlessly pursues the university's vision to be inclusive, innovative and future focused. In this brief interview, we discuss the transformative role of technology in higher education and how SU is effectively embracing technology in its research, learning and teaching.

Q: Is it essential for university leaders to embrace technology in order to meet the challenges faced by the higher education sector?
A: Definitely! Technology is an enabler for broader student access, new methods of teaching and learning, an essential aspect of research, and the backbone of data analytics and decision-making.

Q: SU is investing substantially in information and communication technology (ICT). What areas in particular are you focusing on, and why?
A: SU is currently investing in a new Student Information System (SIS) and Financial System (FS). In addition, other information systems such as research management, tracking for student success, and tracking and support of internationalisation are being implemented. The university's aim is to integrate information across all functional areas and to provide modern information systems in support of all its core strategic themes.

The main driver for these investments is to ensure that SU's SIS and FS are agile and easily configurable in order to respond to new and evolving requirements in a fast-changing higher education sector.

We are also focusing on ICT in teaching – in particular the delivery – changing to a model of engaging the learner. We will also use technology to reach new student markets and to deliver higher education on a scale not possible in the past. Micro credentials will also become part of our system.

Finally, we are investing in ICT in research, with a focus on collecting, processing and managing research data and information.

Q: How is SU using technology to maximise the student learning experience?
A: SU has a track record of using blended learning in undergraduate residential programmes to make content available, promote interaction among students and between students and lecturers, and formative and summative assessment to enable learning-centred teaching and learning. SU also uses appropriate technologies in niche postgraduate programmes to deliver the programmes and provide support to students who come to campus for block contact sessions and further engage in learning activities online between these contact sessions.

Q: What are the biggest technology-based challenges faced by SU?
A: The three biggest technology based challenges for us are:
• The provision of appropriate professional learning opportunities to lecturers to use technologies effectively in learning and teaching, allowing them to embrace the rapid change that technology brings
• Privacy and ethics compliance requirements; and
• Security threats and pro-active defence capabilities.

Q: Does technology pose any threats for universities? How will you address these at SU?
A: Yes: if we fail to respond, other universities, including international universities, will take over our student market. We need to adapt and align to the changing environment and grow the learn-and-earn market. We must enable the researchers with storage, computational facilities and fast networks, as well as the associated services, in order to stay competitive. As part of this investment, we will also ensure our technology is secure and protected.

Q: One of the priorities for education in Africa is inclusive and equitable education. How is the university addressing this through the use of technology?
A: SU uses appropriate technologies for the African context to deliver inclusive and equitable postgraduate learning opportunities in niche areas such as nursing, HIV/AIDS management and public leadership. These technologies include transmission by satellite links that do not require internet connectivity and online learning platforms.

DIGITAL TECHNOLOGIES ARE TRANSFORMING EDUCATION IN AFRICA

Jerome Morrissey, Global eSchools and Communities Initiatives' Chief Executive Officer, describes how ICT integration is helping to transform teaching and learning in African schools whilst equipping young people with digital literacy for the 21st century jobs market.

Jerome Morrissey,
Chief Executive Officer,
Global eSchools and
Communities Initiatives (GESCI)

❞ If education systems in Africa are to successfully deploy ICT integration as a key agent of transformation or reform of teaching and learning, it must learn from the piecemeal, ineffective and costly strategies employed throughout the western world over the past 30 years.❞

In Africa, 50 per cent of people are aged under 19, with a population growth rate of approximately 2.5 per cent per annum in Commonwealth member countries, and up to three per cent in several other African countries. Even with increased national budgetary allocations for basic education, schools are often very overcrowded, teacher pupil ratios can be extremely high and qualified teachers are in short supply throughout the region. The quality of teaching is generally poor because of inadequate teacher education or a reliance on contract or volunteer teachers in some countries. Overall, there has been a lowering of the status of teachers in the community, which makes teaching a less attractive option for school leavers.

The successes of the Education for All (EFA) and Universal Primary Completion (UPC) initiatives to 'ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling' were directly associated with a lowering of quality of education provision generally.

Sub-Saharan Africa is host to more than 26 per cent of the world's refugee population. Camps for refugees, internally displaced people and returnees in Ethiopia, Kenya, Nigeria, Tanzania and Uganda, present an even more urgent need for equitable and inclusive quality education provision.

Over recent years, a number of complementary developments in Africa, particularly in some Commonwealth member countries, have laid the groundwork for the effective use of ICT in the classroom and which have also led to an improvement in overall teaching skills:

- Increased rural electrification has benefitted local schools.
- A rapid national rollout of wireless internet access in schools, as well as universal ownership of smartphones by teachers in middle income countries, has raised the belief in and expectations of the school community as to the relevance of ICT in teaching and learning.
- There has been a new confidence and growth of expectation within the education community that the incorporation of digital technologies can directly address the poor quality of teaching, and drive a more participative classroom approach by students in their own learning.

Teachers embrace ICT-based training at a regional teachers' conference in Kenya to integrate ICT in teaching and learning.

- Led by principals, schools are developing coherent strategies for whole school ICT integration, which place ICT-based teacher professional development at their centre.
- The purchase costs of basic digital technologies such as laptops, tablets, digital projectors and servers, as well as usable internet provision, have reduced significantly, making a limited – but adequate – quantity affordable to schools.
- To one degree or another, countries including Botswana, Ghana, Kenya, Sierra Leone, Tanzania, Uganda and Zambia, are engaged in reform of the school curriculum which increasingly places an emphasis on skills for work and living and, in the case of Kenya, identifies the points where technology should be used to meet particular learning objectives.
- ICT is increasingly seen as central to delivering the learning objectives of the new competency-based curriculum in Kenya and Tanzania, where 21st century skills are often best acquired through the mediation of ICT. For example, a project-based learning approach, where several of the commonly identified skills are acquired and facilitated through access to online resources by the students themselves. We have seen some extraordinary examples of high quality student project-based work directed by teachers from schools in four counties in Kenya.
- Curriculum development agencies and teachers' services commissioners have developed ICT-based programmes for teachers' professional development in the pedagogical use and integration of ICT, which are improving the quality of teaching and learning, and which facilitate collaborative student learning.

Global eSchools and Communities Initiatives (GESCI), in conjunction with the Ministries of Education, Science and Technology in Côte D'Ivoire, Kenya and Tanzania, currently implement the African Digital Schools Initiative (ADSI), a pre-scaling programme in 140 secondary schools with an outreach of up to 140,000 students. The first two years of implementation have shown that participating teachers have become competent in using a laptop and digital projector in the classroom - an effective technology configuration where class sizes can be 60 or over. Teachers are successfully progressing through the phases of pedagogical competency in ICT integration.

GESCI has contextualised the UNESCO-revised ICT competency and aligned it to education policy and practice in participating countries. This teacher professional development framework culminates in a 'Knowledge Creation' phase whereby teachers become skilled to build, source and repurpose relevant open source materials and other freely available online content, videos and simulations pertinent to meeting curricular learning objectives. Where textbooks are still the primary, and often the sole teaching and learning resource, teacher-produced materials augment these and enrich learning in STEM (science, technology, engineering and maths) subjects and across the curriculum.

A whole school approach is part of ADSI, as the programme works towards the ultimate transformation of the 140 schools to become digital schools of excellence supported by a structured and incremental progression, from e-Initial to e-Enabled to e-Confident and finally, to e-Mature. This 5 year programme is funded by The Mastercard Foundation.

Students in Loreto Secondary School, Kiambu County, Kenya, engaged in ICT assisted project-based learning assignments.

" A critical factor in the employability of youth is their need to have modern workplace skills, underpinned by digital literacy."

If education systems in Africa are to successfully deploy ICT integration as a key agent of transformation or reform of teaching and learning, it must learn from the piecemeal, ineffective and costly strategies employed throughout the western world over the past 30 years. An inclusive school-wide strategy for ICT integration is led by the school principal and supported by the wider school community. Teachers – who are pivotal to school improvement – are incentivised to professionalise themselves though ICT-based development programmes.

There are some innovative, ambitious and exciting national ICT in education initiatives currently taking place or being planned in Africa, none more so than Kenya's Digital Literacy Programme, which targets its 24,000 primary schools across all 47 counties. It is unique in that it was designed and implemented as an inter-ministerial initiative encompassing the expertise and cooperation of the Rural Electricification Authority, Kenya Institute for Curriculum Development (KICD), The ICT Authority, the Teachers' Services Commission, Kenya Institute of Special Education and the Centre for Mathematics, Science and Technology Education, Kenya Education Management Institute (KEMI), National ICT Innovation and Integration Centre (NI3C). Phase One has seen 19,598 schools being equipped with teacher

digital devices, learner digital devices, content servers and wireless routers. KICD has developed and delivered teacher training in ICT integration to key teachers, and provided subject-relevant content online.

By any standards, this is an extraordinarily ambitious programme and one which has been successfully implemented so far. The next phase must ensure maximum take-up by teachers in every participating school. The programme demonstrates confidence and commitment in supporting the key role that ICT can and will play in raising the standards of teaching in Kenya, and has the potential to set the standard for other African countries' use of ICT in providing the new skills that today's youth require for employment and participative citizenship in a developing continent.

Africa must match today's skills to tomorrow's jobs. With more than 60 per cent of its population under the age of 25, sub-Saharan Africa is the world's youngest region. By 2030, the continent's working-age population is set to increase by two thirds, from 370 million adults in 2010 to over 600 million in 2030. The World Economic Forum estimates that, at current rates, 15-20 million increasingly well-educated young people are expected to join the continent's workforce every year until 2030. This poses a challenge to governments and businesses: how

can they make the most of the talent of this up-and-coming generation, as well as those under-educated and under-skilled youth, who outnumber those with post-secondary education?

While a number of African countries, at least for now, are still less exposed to the job disruptions of the Fourth Industrial Revolution (which is measured through the spread of latest technologies and diversification of local labour markets), they must not waste this window of opportunity for engaging in reforms. Indeed, these countries' current capacity to meet the requirements of future jobs leaves little space for complacency. A recent Assessment of Knowledge Societies in 16 African countries found that most have prioritised integration of ICT into the different sectors of their economies, and particularly education, but have yet to realise its full potential.

A critical factor in the employability of youth is their need to have modern workplace skills, underpinned by digital literacy. The International Organization of Migration estimates that Africa loses $4 billion a year through hiring expatriates to provide STEM services. Some benchmark studies, including GESCI's ICT interventions in secondary schools as well as stakeholder policy forums on the topic have found that ICT integration has been successful in improving teaching capacities and 21st century skills among learners. ∎

THE ZAMBIAN OPEN UNIVERSITY

"University without Walls"

The Zambian Open University is a private higher education institution established in 2002 with a mission of providing education to all without any barriers, hence its motto.

In 2016, a fulltime study option was introduced, meaning the University is now a dual mode, blended learning institution.

The Zambian Open University aims at achieving recognition, not only as a leading open and distance learning institution, but also as a university par excellence, prepared to serve society and the region through the provision of programmes of quality and relevance which are second to none.

Vision	Mission Statement	Core Values
To be an internationally recognised open university, providing quality education through blended learning.	To remain a leading higher education provider using creative and innovative learning methodologies aimed at reaching diverse constituencies for promoting social and economic development.	Patriotism, Honesty, Industry, Generosity and Self-Directedness

Schools

Academic programmes and courses are offered through the following Schools:
• Agricultural Sciences
• Business Studies
• Education
• Graduate Studies
• Humanities and Social Sciences
• Law
• Academic activities are supported by the Directorates of Quality Assurance and Extension Services and Information and Communication Technology

Teaching

ZAOU has adopted the Moodle open-source learning management system for teaching and learning through which materials are accessed online by students, allowing for immediate feedback and authentication via VeriCite software.

Collaboration

Notable international partnerships include:
• The University of Newcastle, Australia
• Open University, Malaysia
• CTA, ACP-EU
• SNV, Netherlands
• ADT, Germany
• Gaborone University College, Botswana
• Bosa Bosele Training Institute, Botswana

Chairman of the Board of Directors, Professor Dickson Mwansa, PhD, GCDS, founding Vice Chancellor, who was honoured by the President of the Republic of Zambia, His Excellency, Mr Edgar Chagwa Lungu, with the Order of Distinguished Service First Division.

Professor Richard Siaciwena, Vice Chancellor.

Professor Anne Sikwibele, Deputy Vice Chancellor.

www.zaou.ac.zm

THE DIGITAL REVOLUTION IN EDUCATION IN THE BAHAMAS

Education Minister for The Bahamas, Jeffrey L. Lloyd, describes how the government is harnessing new technology to actively address the critical issues of access and equity in education across the archipelagic nation.

Jeffrey L. Lloyd,
Minister of Education, The
Commonwealth of The Bahamas

" Our archipelagic nature means that human and material resources often cannot be found in sufficient quantities to service all of our islands."

With fixed determination, The Bahamas has charted a course to make its education system more relevant, dynamic, inclusive and global. It must evolve, not only to meet the changing needs of our country and to instil a sense of national pride and love of The Bahamas, but also to ensure that we are meeting relevant world standards. With this in mind, we move ahead enlightened by lessons from the past, and firmly committed to creating a better future for our people through education.

Comprising 700 islands and cays, our archipelagic nation is relatively young, having gained its independence from Great Britain in July 1973. When compared to countries considered to be 'first world', and with a population of only 385,800, one may believe that the task of realising a perfect education system is relatively simple. However, there are several dynamics to be considered, not least of which are the influences we have to juggle from our British past, our neighbours in America and the Republic of Haiti, from whence comes our greatest immigrant population. Over the years, this has

impacted our education system.

Our geography poses additional problems for our education system. Every year, The Bahamas finds itself sparring with hurricanes, which usually take powerful swings at our schools and other infrastructure. Our archipelagic nature also means that human and material resources often cannot be found in sufficient quantities to service all of our islands, thereby leaving our students to suffer the unfortunate effects. Though education in The Bahamas receives the 'lion's share' of the budget, we continuously grapple with the issue of ensuring equity, as well as access, for Family Island schools.

In spite of this, and in keeping with the resilient spirit of our people, the Ministry of Education recently embarked on several major initiatives to target areas in our education system that need to be energised. Our vision for the Bahamian Education system is that it will "foster academic excellence and equip students with multiple literacies that will enable them to make meaningful contributions as nation builders who are globally

❚❚ Students will be able to participate in real time lessons through virtual classrooms, and access pre-recorded lectures, tutorials and virtual libraries."

competitive". In an effort to make this vision more than words on a piece of paper, the Ministry has targeted the following areas for pointed focus: (i) digital revolution (technology), (ii) pre-primary education, (iii) curriculum reform, (iv) professional development (education professionals, administrators and teachers) and (v) improvement of the physical plant. While steady progress is being made on the latter four initiatives, we have decided to heighten the push towards digitisation of all public education systems, as it provides the perfect means for most effectively addressing our urgent concerns about access and equity.

Our mission to digitise all public schools in The Bahamas began in 2017, with a pilot programme whereby 340 tablet computers were distributed to ten schools throughout New Providence and the Family Islands. Building on that programme's success now would require significant technology upgrades to schools to make them Wi-Fi ready, and to provide tablets to all pre-primary school students immediately, with all other students following on a staggered timeline. To realise these goals, the Ministry reached out to civic minded stakeholders. Through public-private

partnerships technology upgrades have begun, with fibre optic cabling installations in schools and 12,000 Amazon Fire 7 tablets soon to be distributed accordingly. Training for teachers on the proper protocols and use of the devices will follow shortly. We have a duty to give students a smart start and make available whatever educational tools they need to help them in their emotional, social, physical, cognitive and character development, through wholesome and structured learning experiences. Modern technologies will assist us in addressing varied learning styles, improve literacy and numeracy skills and encourage creativity and curiosity in our students.

In the near future, our 'Digital Revolution' will make learning through distance education possible and will put us in a position to enhance the teaching and learning environment, thereby addressing the cries of students and their parents regarding the lack of teachers on far-flung Family Islands. No longer will a student sitting in a classroom in Crooked Island or San Salvador be without a science or music teacher, because they will have access to teachers and facilities in New Providence through distance learning. Students will be

able to participate in real time lessons through virtual classrooms, and access pre-recorded lectures, tutorials and virtual libraries. Additionally, teachers themselves will be able to access professional development and training opportunities without having to travel to the capital. Better trained teachers, coupled with equal opportunities for all students, will enhance education outcomes overall.

Targeted focus on digitisation will give the potential to better manage and plan in the area of Education Management and Information Systems (EMIS). Driven by data, we foresee an amalgamation of the work of the various silos in education, which will bring alignment, a measure of accountability, improved monitoring, better allocation of resources, and the ability to pinpoint our strengths and weaknesses.

To function in the global marketplace we must be forward moving, forward thinking and have the ability to adjust to changing trends. However, we must never lose sight of our heritage, values and uniqueness. As we set sail into the next forty five years, we do so cognisant of UNESCO's Sustainable Development Goal 4, and endeavour to positively impact our education system through our Digital Revolution in Education. ∎

AN INTERVIEW WITH...

Professor Sibusiso Moyo, Deputy Vice Chancellor: Research, Innovation and Engagement, Durban University of Technology

Professor Sibusiso Moyo joined Durban University of Technology (DUT) in 2001 and was later appointed as Deputy Vice Chancellor in 2017. She supports the Vice Chancellor and Principal, Professor Thandwa Zizwe Mthembu, to achieve DUT's vision to be the preferred university for developing leadership in technology and productive citizenship. DUT is currently pursuing a rigorous transformation programme to upscale and ensure broader local, regional and global impact. In this brief interview we discuss the transformative role of technology and how and why DUT is creating the next generation of skilled STEM (science, technology, engineering and mathematics) leaders.

Q: Your mission is for DUT to create the next generation of skilled STEM leaders. Why is this essential for South Africa's socio-economic development?

A: Universities of technology have a key role to play in meeting South Africa's national development goals of contributing to human capital development and equally creating the next generation of graduates who will become productive citizens who are not only job seekers, but also job creators. To this end, with over 30,000 students, DUT strives to create an enabling environment that attracts and retains the most talented and creative students. In 2018, DUT was the recipient of the National Research Foundation Excelleration Award that recognises institutions with accelerated growth in research over a period of time. Many of DUT's students win top awards at both local and national level.

The youth unemployment rate in the KwaZulu-Natal region is huge and the university is committed to ensuring that the skills acquired at DUT contribute to job creation as well as the development of innovations and products that will address pressing socio-economic issues, such as poverty, health, water and food security.

Q: To operate in our rapidly changing environment, it is critical for STEM universities to be relevant, responsive and resilient. How can you ensure this is the case at DUT?

A: AT DUT, we have taken an environmental scan, in particular on the research, innovation and engagement agenda to identify regional strengths. It is important for DUT to be embedded in and relevant to the local context. Solutions to identified socio-economic issues involve multi-disciplinary approaches and require resources not just from within the university but also in collaboration with various stakeholders like industry, corporations, other institutions of higher learning, science councils, NGOs and not for profit organisations

We have completed a curriculum renewal exercise across six faculties that has seen more innovative programmes that also take into account the fourth industrial revolution debate to cater for data analytics, artificial intelligence and computing. Some of the changes also take the local contexts into account to meet demand in areas where there are scarce skills.

Q: You are keen for the university to develop partnerships, for example with other institutions, the local community and the private sector. Why is this?

A: It is important to leverage both human and financial resources to deliver high quality programmes and outcomes which are beneficial to all parties. For us as DUT it is critical for our students to have work experience or on the job training - both of which add to our students' chances of success.

Q: One of the priorities for education in Africa is inclusive and equitable education. How is DUT embracing technology to broaden access to students?

A: DUT is trying to ensure our students all have access to teaching, learning, research and innovation materials and platforms. The university is investing heavily in IT infrastructure, the library, research and innovation platforms and databases to deliver cutting edge teaching, learning, research and innovation that is competitive both nationally and globally. Opportunities for entrepreneurial education are open to all students and our exchange programmes are also an added advantage, promoting internationalisation and cultural exchange.

PCF9

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HARNESSING INNOVATION TO LEAPFROG INEQUALITY

Rebecca Winthrop at the Center for Universal Education at the Brookings Institution, encourages Commonwealth countries to embrace innovation in order to accelerate education progress. She explains how worthwhile technological innovations can help address the challenges of skills inequality and skills uncertainty, and enable education systems to 'leapfrog' forwards.

Rebecca Winthrop,
Director, Center for Universal Education, Brookings Institution

❞ Closing the skills inequality gap while reorienting education to develop skills for uncertainty involves providing skills to join the current workforce, but also preparing to adapt to the shifting employment landscape of the future."

Most countries in the world, including many in the Commonwealth, face a twin set of challenges in education – skills inequality and skills for uncertainty. On one hand, there are deep inequalities and pervasive disparities in what and how young people learn in classrooms across the world. Many children may not make it to school in the first place, and a large proportion of those that do are not mastering the skills they need for life and work in the twenty first century. If current trends continue, it is predicted that 825 million children in low and middle income countries, or half of all youth entering the workforce in 2030, will lack the basic secondary level skills they need to thrive, including literacy, numeracy, problem solving and critical thinking. What is worse is that in many countries, at the current pace of change, it will take an average of 100 years before these most marginalised young people will catch up to their more wealthy peers. However, this is not just a problem for developing countries. In high income countries these deep gaps also exist, with one third of youth estimated to be lacking the basic secondary education level skills they need to thrive.

On the other hand, in today's rapidly changing world, technology, people and ideas are flowing across borders at a greater pace than ever before. This momentum of technological advancement and global interconnectedness stands in stark contrast to the rate of progress in global school systems. Children will need to be well equipped with a wide array of skills and competencies – from critical inquiry and collaboration, to quickly adapting to uncertainty and changes within the economy, society and the natural environment. According to the OECD, while most workers aren't at risk of losing their jobs to automation, the bulk will see 50-70 per cent of tasks lost to automation, shifting from routine to specialised, and from mechanical to interpersonal.

In a nutshell, reconciling this two-fold problem in education – closing the skills inequality gap while at the same time reorienting education to develop skills for uncertainty – involves not only providing children with the skills they need to join the current workforce, but also preparing them to adapt to the shifting employment landscape of the future.

At the Center for Universal Education at The Brookings Institution, we think

Worthwhile innovations will help transform both what and how children learn.

worthwhile innovations will help transform both what and how children learn. Ultimately, everyone must develop a breadth of skills, namely the full set of capabilities and competencies to thrive in work, life and citizenship in fast-changing environments. The ability to learn new things over the course of one's life will be central, along with – of course – strong academic grounding and ability.

In an attempt to answer the question of whether innovations in education can help to address skills inequality and skills for uncertainty at the same time, the Brookings Institution compiled a catalogue of nearly 3,000 education innovations from 166 countries that are implemented by a variety of actors (non-profits, governments and the private sector), and include ideas that range from new and untested, to those established and backed by evidence. We were most interested in learning whether innovations have the potential to 'leapfrog', in other words rapidly accelerate education progress in education, addressing skills inequality and skills for uncertainty at the same time.
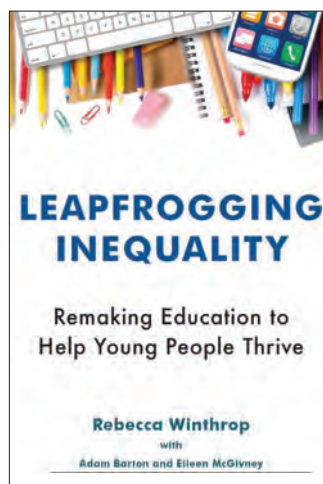
In our recent book, Leapfrogging Inequality: Remaking Education to Help Young People Thrive, we share what we have learned from

the innovations catalogue and the existing evidence about what and how to transform education. We developed a Leapfrog Pathway to guide decision makers in thinking about how policymakers and practitioners in education could harness innovation to leapfrog progress. Harnessing technology is one of eight main elements in our leapfrog pathway.

More than half of the innovations in the catalogue purposefully use technology in some capacity. A well-known framework for understanding

Credit: Brookings Institution Press (2018).

how to use technology effectively in education is the SAMR model, developed by Ruben R. Puentedura in 2006. The SAMR model focuses on four types of technology use in education: substitution, augmentation, modification and redefinition. Puentedura argues that the first two types enhance the education being provided – digital technology either simply substitutes for the function of some other technology such as chalk and black board or pencil and paper, or is better integrated in analogue tasks in order to augment a function, for example a student completing a worksheet on a tablet and the answers automatically graded, saving teachers time. The second two types, however, are fundamentally different. They move beyond improving the efficiency of the current educational model by enabling education transformation. We argue that while substitution and augmentation can be helpful, modification and redefinition can make it possible to leapfrog in education via the use of technology. Across all the innovations that use technology in the catalogue, the vast majority – almost 80 per cent – work to substitute or augment existing practice.

Most countries face a twin set of challenges in education: skills inequality and skills for uncertainty.

Credit: EIFL

Harnessing technology to leapfrog is therefore possible, and we can learn a great deal from those education innovations that seek to leverage technology to modify and redefine what is possible. For example, the State Secretary for Education in Amazonas, Brazil developed the Media Center programme which rapidly enabled students to have access to quality secondary education, which for most of the young people in state primary school, was the only available education. Before the introduction of the programme, the state's geography, scattered population and extensive distances between communities made delivering a traditional model of secondary education difficult. Now, lessons are provided via two-way video uplink with top content specialists lecturing from the region's capital, supported by classroom management and coaching from mentoring teachers in the community. In a few short years, not only did the Amazonas education system leap forward and provide its students with secondary education, but young people performed on a par with other students across the country.

This strategy for bringing quality learning to rural communities is also being used in Ghana. Making Ghanaian Girls Great! is a programme implemented by the Varkey Foundation in partnership with the Department for International Development (DfID). It is Ghana's first interactive distance-learning

> **"** Embracing a leapfrog mindset is an important first step for policy makers and practitioners. Examples of approaches that can rapidly accelerate progress can inspire thinking differently about how to tackle system wide problems."

project and has improved numeracy as well as helping to empower girls. The programme uses solar-powered and satellite-enabled distance learning infrastructure to deliver interactive learning sessions to students, teachers, communities and government officials. Over a period of three years, one hour of basic maths and one hour of basic English language curriculum is taught during the day, broadcast live to multiple classrooms by teachers in two teaching studios in Accra. In addition to in-school classes, the programme offers two after school programmes for girls and boys, called Wonder Women and Boys Boys, respectively. The Ghanaian Ministry of Education is now pursuing the idea of scaling this approach across the country.

In India, the ed-tech initiative Mindspark uses a different approach to harnessing the power of technology, to modify what is possible. The initiative is an internet-based adaptive practice and learning tool, and an innovative means for helping students to learn maths and languages, such as Hindi. The tool features explanations that build concepts, questions that trigger

critical thinking, and instantaneous feedback that aims to correct conceptual understanding. In addition to facilitating student engagement in the curriculum, Mindspark allows teachers to tailor lesson plans, receive performance feedback in real time and find common problem areas related to any topic covered. Evaluations have shown that gaining access to the programme has led to large and rapid test score gains in both maths and language, and the initiative is beginning to scale within India.

We argue that embracing a leapfrog mindset is an important first step for policy makers and practitioners, and knowing that there are examples of approaches that can rapidly accelerate progress can inspire thinking differently about how to tackle system wide problems. However, most of the innovations in our catalogue remain small scale and at the margins of their education systems. Much work remains to identify the most promising practices that are shown to be effective and can practically be scaled and become new approaches at the heart of education delivery. ■

EVERY GIRL HAS A RIGHT TO EDUCATION
Including the most marginalised

Chief Executive of Plan International UK, Tanya Barron, warns that gender inequality in education is a substantial and in some places growing problem that must be proactively addressed by Commonwealth leaders in order to achieve the Sustainable Development Goals.

Tanya Barron,
Chief Executive, Plan International UK

❝ If Agenda 2030 is not met for the most disadvantaged, we will have collectively failed."

Global progress towards gender equality in education has stalled. Despite many success stories since the turn of the millennium, new challenges are emerging and old ones remain unresolved.

The number of girls missing out on primary school is now increasing, not decreasing. Conflict and instability is on the rise, creating new frontiers of gender inequality in education that the world is ill-equipped to deal with.

All of this has real and urgent implications for the Commonwealth, which is home to over two billion young people, as well as the world's three largest out-of-school populations.

Without equitable education systems that level the playing field, how will we create the inclusive growth needed to deliver on Agenda 2030?

The answer to this question is: we won't. If Agenda 2030 is not met for the most disadvantaged, we will have collectively failed. That is why it is so important to put the world's most marginalised girls at the heart of our approach to achieving the Sustainable Development Goals.

The good news is that leaders across the Commonwealth are increasingly recognising this and the evidence on how to do it is improving. With sustained commitment, we can ensure all girls across the Commonwealth receive 12 years of quality education by 2030.

Globally there are 130 million girls out of school, many of whom live in the Commonwealth. Across the Commonwealth, girls are the target of violent, sometimes deadly, attacks simply for going to school. Girls face abuse on the way to and from school and they are denied access to safe and clean sanitary facilities. Deep-rooted social norms place them at risk of harmful practices such as early and forced marriage. Sexist curricula hold girls back from thriving and reaching their potential.

Although gender inequality can go some way towards explaining these trends, it is not the whole story. The most marginalised girls that we work with at Plan International are not only held back because of their gender, but also because of the numerous forms of discrimination that they face.

They may live in a rural area or are perhaps affected by conflict. They may have a hearing difficulty or be from an extremely poor family. Being a girl is often only part of the story. It is the intersectionality of exclusion and discrimination where policy makers must focus their attention.

Girls learning at a school supported by Plan International in Ghana.

❝ One of the best investments Commonwealth leaders can make is to apply the concept of progressive universalism to their education budget."

However, we are seeing some promising solutions across the Commonwealth. Take Ayisha*, for example. Ayisha lives in Sierra Leone in a community devastated by the Ebola crisis. She has a physical impairment and, like for many girls of her age in the country, her mother preferred to spend the family's scarce resources on her two older brothers. As a result, Ayisha's attendance at school suffered. She repeated the same class over and over again. However, a new programme was set up in Ayisha's town which invested time in engaging with parents and discussing with them the importance of education. Despite initially not seeing Ayisha's education as a priority, the frequent visits and counselling sessions, as well as financial support, convinced her mother of the merits of sending her daughter to school. Ayisha has now successfully transitioned to secondary school.

Ayisha's story is not unique. There are millions of girls like her around the world. What it does demonstrate, though, is how challenging it can be to reach the most marginalised girls. It takes time, smart policy, funding, perseverance and a commitment to leave no girl behind.

In West Africa and other regions, Plan International has been working together with the UN Girls Education Initiative and the Global Partnership for Education to build the capacity of government officials and civil society advocates from across the region – including in Sierra Leone – for gender-responsive education sector planning. This is a process that encourages national stakeholders to collect and analyse data with a gendered lens, in order to develop strategies and interventions that respond to barriers facing both girls and boys in completing a quality education. It is technical work, but it is essential. The challenges that girls like Ayisha face must be properly understood and factored into planning and budgeting. To address their needs, their voices must be heard.

It has been encouraging to see the political commitment to girls' education in 2018. The Global Partnership for Education replenishment conference, Commonwealth Heads of Government Meeting, the G7 Summit and the G20 Education Ministers meeting have all helped focus political attention on the importance of gender equality in education. Though in many ways this is the easy part.

Turning these political commitments into laws, policies and funding streams that prioritise the hardest to reach girls is where it gets tricky. Therefore, it is so important that political leadership is sustained well beyond the summit speech. It needs to be there during the budget negotiations, the passing of the bill and the design stage of the programme. It needs to lead to capacity building initiatives such as gender responsive sector planning training and others that are targeted at teachers, school administrators and young people themselves.

In the Education Commission's landmark report entitled The Learning Generation, they call on leaders to apply the concept of 'progressive universalism': expanding the provision of quality education for everyone, while prioritising the needs of the poor and disadvantaged.

To deliver on Agenda 2030, one of the best investments Commonwealth leaders can make is to apply the concept of progressive universalism to their education budget. We need to see greater investment in education, but prioritise girls like Ayisha, so that the unequal opportunities she has faced do not lead to unequal outcomes for the next generation.

*Ayisha's name has been changed for child protection reasons. ∎

Cheshire Services Uganda

Bridging Disability and Development

Girls' Education Challenge UKaid

The Girls' Education Challenge Programme

Addressing the educational marginalisation of girls with disabilities in Uganda

Globally, it is estimated there are between 90 and 150 million children coping with disabilities. Most of these live in developing countries, particularly within sub-Saharan Africa.

In Uganda, there are around 2.5 million children with disabilities - 13% of the youth population. Children with disabilities, and more so girls, are one of the most marginalised group in society. As such, they are excluded from most of the normal development interventions, especially education. This invisibility within the education system leads to a very low transition rate between secondary education and university or other tertiary levels. According to a 2014 UNICEF analysis, only 9 percent of Ugandan school age children with disabilities were thought to be in primary school, and only 6 percent of these then able to continue at secondary level.

Girls with disabilities are disproportionately underrepresented in education as they face marginalisation both through their disability and their gender. This stems from a negative attitude towards disability among families, communities and policy coordinators. At both family and community level, the girls face extreme maltreatment

including neglect, sexual violence, and early and forced marriage, which eventually affects their participation in education. Similarly, inaccessible school buildings, a lack of individualised support, a limited implementation of inclusive education among teachers, a lack of early identification and intervention, fewer appropriate learning materials and poor assessment methods for learners with disabilities all contribute to the problem and pushes girls with disabilities out of school.

Cheshire Services Uganda, with support from the UK's Department for International Development, is implementing a ten year Girls' Education Challenge programme through until 2024, which is currently supporting over 2,000 girls with disabilities access education by reducing the barriers to education they encounter at family, school community and policy level.

The first phase, between 2014 and 2017, focused on improving learning outcomes of the project- supported girls. Evaluation of the outcomes for this phase indicated an 11.5% and 12.8% improvement in literacy and numeracy rates respectively among girls supported by the programme.

The second and final phase of the project is now focusing on their transition through the education system, in addition to improving learning outcomes further.

To achieve positive outcomes in both areas, the Girls' Education Challenge continues to focus on improving the environment, teaching and leadership for learning.

Specifically, the lessons from the implementation of the Girls' Education Challenge point towards the ongoing need for:

- a clear inclusive education policy or strategy to direct similar works
- the holistic design of inclusive programmes responding to diverse barriers
- an overall change in attitude at all levels from family to school
- a stronger emphasis of learning needs assessment for all children
- embracing reasonable accommodation at all levels
- a curriculum overhaul to ensure that learning goes beyond academics
- an improvement in esteem and confidence for children with disabilities, and
- addressing school infrastructure gaps.

csuganda.org

FROM GIRLS' EDUCATION TO WOMEN'S EMPOWERMENT

Julia Gillard, Chair of the Global Partnership for Education, calls on Commonwealth leaders to commit to a vision of gender equality that starts with providing access to quality education for girls and ultimately ends with empowered women sitting in equal numbers at the Commonwealth Heads of Government Meeting.

Julia Gillard,
Chair, Global Partnership for Education and former Prime Minister of Australia

// We should strive to have women involved in the decision-making and leadership positions that have the power to make the big changes. "

Abdulrahman Ruhainatu is a young girl who lives in West Mamprusi, one of the poorest districts in the north of Ghana. At school she is at the top of her class in science. Her dream is to go on to university, study science and become a nurse to help her community.

Unfortunately, to make her dream come true, Ruhainatu needs to overcome many obstacles. In her young life, she has already seen many people in her village die from cholera and other diseases. Her family is poor, so it will be hard to manage meeting basic needs with the expense of Ruhainatu pursuing her education. To succeed at university she not only needs to attend school, she needs to learn, but the schooling she receives is of low quality. Ruhainatu also doesn't have easy access to role models to inspire her – in the district where she lives, two thirds of women are illiterate and half have never attended any education.

Sadly, this is not just the story of one individual. It is the story of millions and millions of girls and boys. A story repeated across the world and across many Commonwealth countries. A story of either no schooling, or such poor quality schooling that even basic literacy and numeracy skills are not learned.

The picture tends to be even worse for girls than boys in relation to lack of access to good education. We also cannot shy away from the fact that violence and sexual abuse prevent girls from learning. The kidnapping of hundreds of schoolgirls in Nigeria by the extremist group, Boko Haram, is an explicit example. But millions more girls face harassment and violence, keeping them at home or precipitating decisions to drop out. Early marriage affects some 15 million girls each year, compounding the pressure on them to abandon education.

Everyone in a position of authority in the Commonwealth should do everything possible to help Ruhainatu, and every young woman in her situation, to achieve their dreams of a quality education.

If we can do so, each of our countries will be better off. Our communities will be more secure. And our economies will be stronger.

An educated woman is an empowered woman. Investing in girls'

> **"** Investing in girls' education is the right thing to do and the smart thing to do."

Morning classroom for Ghanaian girls at Pong Tamale Experimental Primary School. Ghana has received US$95 million in Global Partnership for Education support over the past decade to strengthen the country's education system.

education increases women's labour force participation rates and earnings, which benefits national economies. Education also provides more choice around marriage and family planning.

Investing in girls' education is the right thing to do and the smart thing to do. Indeed, investing to ensure a quality education for every child is both morally right and the key driver of a better future for our world.

The Global Partnership for Education (GPE), which I am honoured to chair, is a catalyst for education investment, working together with governments in developing countries to strengthen and better fund their education systems.

In February 2018, we held a major financing conference in Dakar that showed unprecedented political support for global education. With ten heads of state, over 100 ministers and 1,200 participants from across the globe, the conference represented a turning point in political commitment with over US$2.3 billion pledged by donors towards improving education. Developing countries themselves pledged tens of billions of dollars more in increases to their own investment in education.

Following the success of the financing conference, GPE is immediately putting the additional finance to work to support the education of more children, in more developing countries.

For example, Ghana has received US$95 million in GPE support over the past decade to strengthen the country's education system and ensure that girls like Ruhainatu can go to school and learn.

Seventy five of the most underprivileged districts have been helped to institutionalise in-service teaching training and provide small grants to schools to upgrade their facilities and learning materials.

Ghana has also improved its school supervision and accountability systems, resulting in better student and teacher attendance and higher enrolment rates, particularly among girls.

Improving education takes strong leadership. Just as we want gender equality in education, we should strive to have women involved in the decision-making and leadership positions that have the power to make the big changes.

When Commonwealth Heads of Government sit around the table, there are currently 49 men and four women. While for 66 years our Head of Commonwealth has been a very strong woman, most of our governments have been dominated by men.

In my other role as Chair of the Global Institute for Women's Leadership at King's College in London, we are working to add academic rigour to the question of how to address this imbalance.

We already know that rather than one high, impenetrable glass ceiling, there is a glass labyrinth for women to navigate on their journey to leadership. Along that path, there are a myriad of points in a career where a woman's experience can be profoundly different to a man's.

So let's commit to a vision of gender equality which starts with educating a girl like Ruhainatu and ends with women sitting in equal numbers at the Commonwealth Heads of Government Meeting. An equal, empowered, educated future for all. ∎

ABOUT MOE

The Ministry of Education is responsible for all policies on education, including apprenticeships and wider skills acquisition in Ghana. We work to provide education that ensure opportunity is equal for all, no matter what their background or family circumstances.
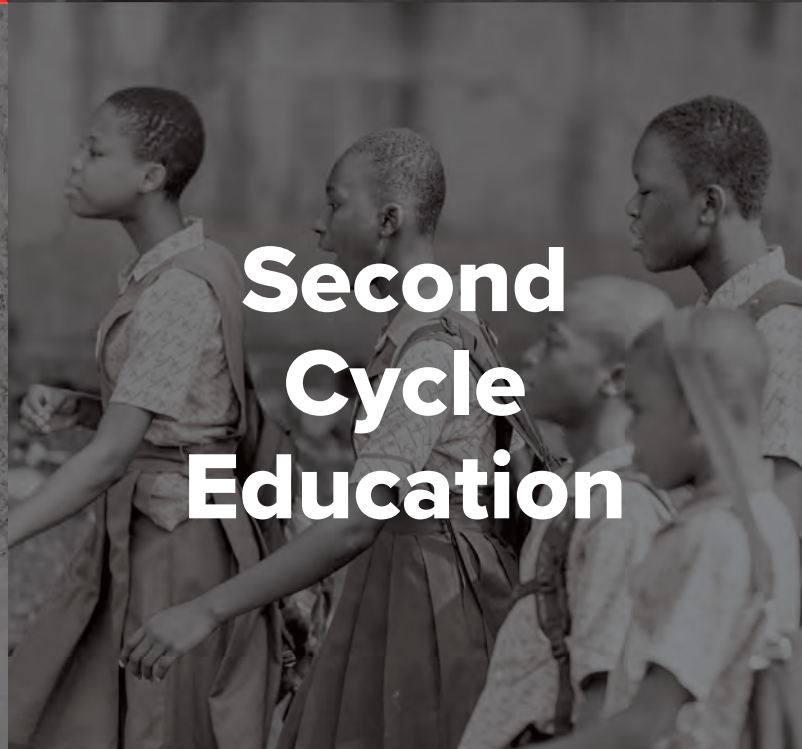
VISION

To provide relevant education to all Ghanaians at all levels to enable them to acquire skills that will assist them to develop their potential in order to be productive, promotion of technology culture at all levels of society to facilitate poverty reduction and to promote socio-economic growth and national development.

Basic Education
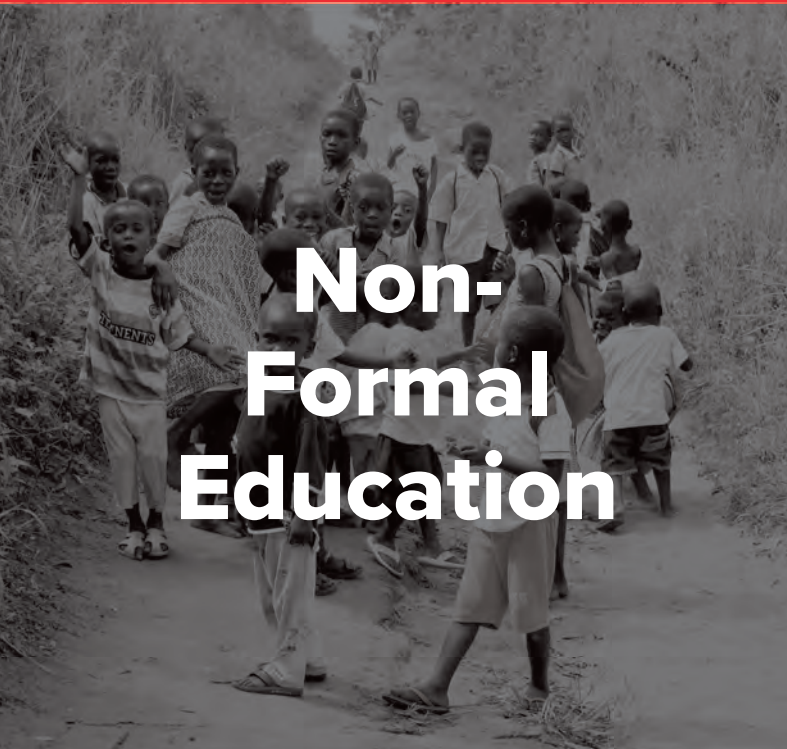
Non-Formal Education

Second Cycle Education

Inclusive and Special Education

Tertiary Education

A Message from the Minister

DR. MATTHEW OPOKU PREMPEH

"A NATION'S MOST VALUABLE RESOURCE IS NOT ITS GOLD, DIAMOND OR TIMBER. IT IS ITS HUMAN RESOURCES. "

EDUCATION WILL CONTINUE TO ENGAGE US, AS WE STRIVE TO FIND A COMMON GROUND TO HAVE AN EDUCATIONAL SYSTEM THAT ADDRESSES OUR NEEDS. OUR VISION IS TO PROVIDE RELEVANT EDUCATION TO ALL GHANAIANS AT ALL LEVELS TO ENABLE THEM ACQUIRE KNOWLEDGE AND SKILLS. THIS WILL ASSIST THEM TO DEVELOP THEIR POTENTIAL AND BE PRODUCTIVE.

moprempeh

moe.gov.gh

DELIVERING EDUCATION IN CRISES

Yasmine Sherif, Director of Education Cannot Wait, contends that for children and youth in crises, genuine survival depends not only on meeting basic physical needs, but also on ensuring access to quality education and the opportunity for a productive future.

Yasmine Sherif,
Director, Education Cannot Wait

❝ Quality education for children and youth in crises is key to unlocking the Agenda for Humanity and the Sustainable Development Goals Agenda 2030.❞

The 75 million children and youth in humanitarian crises have challenged us to make good on our promise to leave no one behind. The Commonwealth is neither immune, nor shies away from this challenge. It is afflicted by emergencies and protracted crises due to conflict and natural disasters. It is also the place where solutions are produced. Countries such as Canada and the UK are the driving force behind the historic 2018 Charlevoix Declaration on the quality of education for girls, adolescent girls and women in developing countries. At Education Cannot Wait (ECW), a global fund for education in emergencies and protracted crisis established by the World Humanitarian Summit in 2016, we embrace the ethos of the Declaration and commit to reaching eight million children and youth in crises with quality education by 2021.

Having served for 30 years in some of the most conflict-affected areas of the world and led ECW since 2017, I am convinced that quality education for children and youth in crises is key to unlocking the Agenda for Humanity and the Sustainable Development Goals Agenda 2030. At present, some Commonwealth countries are coping with significant humanitarian challenges. In Uganda, 1.3 million refugees, of whom half are children, are displaced due to conflict in South Sudan and neighbouring countries. Since 2017,

Bangladesh has struggled to provide education for over 400,000 Rohingya refugee children and youth. As of early 2018, in Cameroon, more than half of the 3.3 million people in humanitarian need are children. In Nigeria, more than six million people – of whom 45 per cent are under the age of 15 years old – are now displaced due to protracted conflict. In Papua New Guinea, more than 23,000 school children were challenged to stay in schools affected by the 7.5 magnitude earthquake in February 2018. Safety, dignity and the right to thrive are at risk for these children and youth.

While survival requires access to clean water, adequate food, decent shelter and medical attention, survival also depends on education and attainment of human potential. Education is vital for the next generation to move beyond crisis mode and prepare for a productive future. The notion that no children and youth are deprived of learning opportunities because of crisis, is a constant reminder of the kind of future that the Commonwealth aspires to achieve: one of fairness and inclusion that ensures every child has at least 12 years of quality education. Understanding the full spectrum of challenges faced by these children and youth in accessing quality education, and hence their role in building stable and productive societies based on democratic governance, the rule of law and social cohesion is imperative to ECW.

Christina Manas, a 13-year-old South Sudanese refugee, studies in grade five at Baratuku settlement in northern Uganda.

" Collectively, we can and must, enable the Commonwealth's children and youth who are coping with crises to attain the future they deserve."

Humanitarian crises do not only create, but also perpetuate inequality and exclusion. Yet, meeting the needs of children and youth in humanitarian crises is often seen as adding to the deficiencies of the education system; many are perceived as burdening the already overcrowded schools and contributing to high student-teacher ratios. Teaching methods, curriculum and staff may not address the specific challenges these children and youth face, including trauma and loss of sense of purpose and self-worth. Refugee children and youth tend to experience low levels of educational attainment in their country of origin, constant mobility due to repeated displacement, being over age for their grade level and having little hope for upward professional and social mobility due to interrupted education.

Girls are more likely to be excluded from education than boys, and few complete secondary education due to a host of barriers. These include, but are not limited to, violence associated with unsafe travel to schools, rape as a means of warfare, schools without sanitation facilities, teachers who demand sex for grades, and early marriage. All of these factors represent very real barriers to girls' education and need to be holistically addressed. This requires analysis that is more specific than disaggregation of data by gender, to include factors such as: age, ethnicity, marriage status, sexual orientation, disability, educational attainment, and time lived in a protracted crisis.

Solutions to reducing vulnerabilities and increasing resilience through education cannot be one-dimensional. They require crisis sensitivity and connecting the dots in tackling crises-induced vulnerabilities and threats. As such, ECW's approach resonates fully with the approach of the Commonwealth in implementing 12 years of quality education and learning with girls' education at the forefront. Together, we address the gendered and environmental dynamics of the complex needs of those left furthest behind. We focus on learning outcomes

and prioritise gender, protection and disabilities through coordinated joint programming across the humanitarian-development nexus. We tap into the expertise and added value of host governments, multiple UN agencies and nongovernmental organisations and strengthen local capacity to respond to education needs. This multi-pronged approach allows us to achieve quality education for greater impact, honour the Grand Bargain (an agreement between more than 30 of the biggest donors and aid providers, which aims to get more means into the hands of people in need) and nurture the resilience of those left furthest behind, through collective action.

In the words of a young Rwandan woman, Amelie Fabian, who recently spoke at the 73th UN General Assembly: "When you give us education, you give us power to decide our fate". Previously a refugee, she completed her primary and secondary education in Malawi, graduated from university and now works in one of the most renowned business firms in Canada. As her journey of empowerment shows, collectively, we can and must enable the Commonwealth's children and youth who are coping with crises to attain the future they deserve – by accessing the opportunities we owe them. ∎

MIGRATION, DISPLACEMENT AND EDUCATION

The Right Honourable Helen Clark, Chair of the Advisory Board for UNESCO's Global Education Monitoring Report, looks at the issue of migration and education, asserting that people should not have to leave their right to education behind them when they move and highlights the positive impacts of inclusive education on both migrants and native children.

Helen Clark,
Advisory Board Chair,
Global Education Monitoring
(GEM) Report, UNESCO

" Providing education to those on the move is not only a moral obligation for those in charge of it, but also a practical solution to many of the ripples caused by population flows."

People have been on the move since time began; going to towns, travelling for work with the seasons or emigrating across the ocean. Uprooting may be the result of a need to seek safety, escape poverty or pursue new opportunities. The education policy choices made to adapt to these movements can dictate whether new arrivals feel hope or frustration. They reflect whether host communities want to help or to exclude. Their design can decide whether migration and displacement will build upon the fabric of a society or unravel it.

Providing education to those on the move is not only a moral obligation for those in charge of it, but also a practical solution to many of the ripples caused by population flows. UNESCO's 2019 Global Education Monitoring (GEM) Report tells us that inclusive education, whereby migrant and refugee children study side by side and enjoy the same education opportunities as native children, has been shown to improve collaborative problem-solving, increase students' higher education aspirations and reduce achievement gaps. It also brings more positive attitudes to immigration. It must be, and should always have been, a key part of the response to migration and displacement. The time for this idea has come, as the texts of the two new UN-negotiated global compacts for migrants and refugees show.

Yet, unfortunately, we often see asylum-seeking children held in detention with few or no opportunities to learn at all. We also see that, taught wrongly, education can distort history and lead to misunderstanding. It may contribute to a view of foreign-born students that ends up building walls when it could just as easily be tearing them down.

The tone of public discourse today often exposes the need for educating society to reject discriminatory

Teachers multitask in Cox's Bazar refugee camp for Rohingya refugees in Bangladesh.

views. Children bullying those from other cultures in schoolyards are a reflection of the societal views gleaned from those around them. A point often missed in public debates is that, with relatively few exceptions, immigrants are more educated than locally-born citizens on average, even in countries which do not pursue selective immigration policies. The evidence shows that those with tertiary education are twice as likely to migrate from villages to cities, and five times as likely to emigrate abroad, compared to those with primary education.

Participatory ways of teaching, as well as instilling critical thinking skills in schools, can help replace stereotypes, prejudices and discrimination with solidarity and openness. What we learn, and how we learn it, can weave together the fabric of societies from

an early age, building cohesion from diversity rather than unease.

Teachers are central to the ways in which education is delivered, helping make the difference between it being inclusive or not. One in five students in high income countries have a migration background. Thus, teachers in these areas are working with diversity on a daily basis, and need to deploy teaching methods that support different cultures and multilingual classrooms. While some people have migrated voluntarily, many others globally have fled their homes because of conflict, oppression or extreme deprivation in other forms, and may have lived through experiences many of us can scarcely imagine. For children with such experiences, while teachers cannot be counsellors, they can help lead them towards people who are.

There are positive examples across the Commonwealth, from Canada to Uganda and beyond, where education is being used as a bridge. When children sit alongside those from different backgrounds and cultures in classrooms, it is the first step towards a greater understanding of diversity in society. By prioritising inclusive education for children, regardless of residence status or background, these countries are leading the way.

Migration and displacement are age-old phenomena and they are currently on the increase. It is time for all education systems to catch up with the reality of the movements of people, and learn to adapt to it. Migrants should not have to leave their hope for and right to a quality, inclusive education behind them when they move. ∎

University of Lagos

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The University of Lagos is one of the top three universities in Nigeria. We are strategically situated in Yaba, a Commercial and Technological hub in the city of Lagos. The city is the industrial capital of Nigeria, the 6th largest economy in Africa with access to multinational industries and organizations.

The University has unique scenic lagoon view and secure environment. These and more increases UNILAG's proximity to opportunities for industry collaboration, research grants and developmental innovations.

With over five decades in existence, we have a faculty grounded in experience and substance. This is evident in the number of notable alumni who have made significant impact globally.

We have strong drive for internationalization and to this end, have maintained credible collaborations with several top institutions around the world.

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