

## Cooperating on the Improvement and Expansion of Tertiary Education and TVET Programs to Transform African Economies

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Youth population statistics in Africa are both cause of concern and cause for hope. By 2050, Africa would be inhabited by one billion young people. Tertiary education and TVET are typically the stage of education people complete before entering the workforce, and thus they have tremendous power to transform economies. This brief suggests areas of partnership for the G20 countries, including: (i) funds for scholarships, (ii) support for teacher capacity building programs and more digital-centric education, (iii) enhanced research collaboration, (iv) increased private sector involvement, (v) closer coordination of G20 partner activities, and (vi) support for the Kigali initiative.

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### Challenge

*"With education critical to resilience and cohesion," the International Commission on Financing Global Education Opportunity finds that "the dearth of skills will increase the vulnerability to shocks and the risks of instability. In a globalized world, these risks will cross national borders and become global problems requiring global action. Where economic, technological, demographic and geopolitical trends collide with weak education systems, the risks of instability, radicalization and economic decline are at their greatest. If the world does not equip all young people with the skills they need to participate in the future economy, the costs of inaction and the costs of delay could be irreparable."<sup>1</sup>*

In Africa, people under the age of 25 constitute 60% of the population and are expected to number near 1 billion by 2050. Thus, the youth hold enormous power to develop and deliver huge benefits to Africa, but if not properly managed, the consequences could be dire. Many African countries are already facing unemployment which could become worse in the coming years unless solutions can be developed. This situation not only affects Africa – migration and instability go hand-in-hand with these issues. Therefore, it is in the global community's best interest to work with Africa to develop meaningful solutions.

It should be acknowledged that strides have been made in the education sector across Africa, and most countries value the importance of a well-functioning education system to secure a better future. In particular, the Millennium Development Goals spurred many countries to increase primary and secondary school enrollment and reduce or eliminate gender disparities in schools, and by 2014 the primary school net enrollment rate had reached 78%, from 60% in 2000 in Sub-Saharan Africa.<sup>2</sup> While more modest, net secondary school enrollment increased from 21% in 2000 to 33% in 2014.<sup>2</sup>

These numbers are encouraging, but there is more to the story than enrollment statistics. In some cases, the push for increased enrollment has encouraged some countries to prioritize quantity, in terms of numbers of students, over the quality of education. This rapid scale up in access to education has stressed the capacity of many countries and has driven up teacher-student ratios while allowing more unqualified teachers to teach. Only 74% of primary teachers and 55% of secondary teachers are considered properly trained.<sup>3</sup> These quality issues may have a negative impact on future education and employment opportunities.

In order to tackle the quality issues present in all levels of education and develop economies to work for all people, tertiary education and Technical and Vocational Education and Training (or TVET) have been identified as key entry points. Both have enormous potential to develop human capital and have been relatively neglected in the past in favor of investment and focus on primary or traditional secondary programs. For instance, Africa only has a tertiary enrollment ratio of 9% compared to a global average of 33%,<sup>2</sup> and TVET programs average enrollments of less than 5% across the continent.<sup>4</sup>

Since time immemorial, societies have gained wealth and power by technological advances, and this holds true to our present day. The more money spent on research and development activities, the greater the results and impact on the society. Unfortunately, Africa also lags behind on this measure as it spends less than 0.5% of GDP on R&D activities while other developing countries spend an average of 1% and developed countries spend around 2%.<sup>5</sup> Another way to demonstrate this disparity is by showing the lack of researchers in Sub-Saharan Africa compared to the rest of the world. The developed world has 3,641 researchers per million people, developing countries average 536, but Africa is way behind at only 95 researchers per million.<sup>5</sup> Considering patent applications, in 2016 Africa, as a region, had the fewest number of patent applications of any other region with 0.5%, compared to 11.3% in Europe, 20.5% in North America, and 64.6% in Asia.<sup>6</sup>

The world is changing quickly, and many of the low skill jobs that people with little formal education relied on in the past are disappearing. Politicians in the developed world bemoan this as jobs being shipped overseas to developing countries, but it is estimated that 50% of the jobs lost are to automation.<sup>1</sup> This trend is expected to continue, and up to half of all current jobs are expected to disappear by 2030 with low and medium skill jobs expected to decrease and high skill job demand expected to increase.<sup>1</sup> With official unemployment statistics approaching 12% across the continent, the need for millions of new jobs is clear, as is the urgency.

The good news is that education is an excellent investment – for every \$1 spent on education, \$10 is generated in additional earnings and health benefits.<sup>1</sup> If we are serious about ending poverty, education is a crucial starting point, and tertiary education and TVET programs should be seen as the vehicles for improving the entire education system while growing economics by building human capital. Educated youth, with meaningful employment, will not be engaged in conflict and will not migrate in search of jobs elsewhere.

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## Proposal

With modest and strategic investments and partnerships, the G20 can provide a meaningful boost to the quality of tertiary and TVET institutions across Africa. As previously mentioned, it is important to note that the proposed interventions are mutually beneficial for G20 countries as well as Africa in direct and indirect ways. The hope is that by presenting different interventions in this manner it will encourage G20 countries to engage in this important area of collaboration between the G20 and Africa.

### **Proposal 1: Funding for Scholarships**

G20 countries should urgently partner with tertiary and TVET institutions across Africa to fund scholarships that would support African candidates to attend a tertiary or TVET institutions. Investments in scholarships can be made on a bilateral basis or multi-laterally, with a third-party international institution managing a “scholarship fund.” Further, the scholarships should focus attention not only on education, but on core leadership training so that after graduation the students would possess skills in foresight, critical thinking, creativity, communication, analysis, policy-making and international negotiations. It is important to note that the intent of the scholarships is not only to provide critical education for more African youth, but also to develop their potential as the next generations of leaders who will find

decent employment and make a difference on the continent upon graduation. Creating and building connections with students can be very beneficial to countries that engage in educational programs with African students by familiarizing students with their country and opening dialogs about potential areas of collaboration. Even now, young Africans that have had educational opportunities abroad are well placed to be leaders once they return home due to the global understanding they gain from their studies.

### **Proposal 2: Invest in Teacher Capacity Building and Support a Shift to More Digital-Centric Education**

G20 countries should partner with African institutions of higher education and TVET on building the capacity of professors and administrators at the schools. As the number of students reaching tertiary or TVET schooling climbs, quality must also increase. Teachers must advance curriculum and teaching methods to take into account modern technology, and new styles of teaching, including “digital learning”, that are more accommodating to today’s mobile, connected and global-oriented “millennial” young persons. Professors must also be attuned to the job market and orient their lessons to ensuring students walk away with the skills needed by employers across the continent today. Further, shifting to more widespread use of technology in the classroom can reduce costs, supplement on-site faculty with experts and content from more sources, and reach larger scale.<sup>1</sup> G20 countries can partner with African institutions on teacher training programs such as:

- collaboration to support training of teachers/professors and to help develop curriculum and teaching materials, and specifically focusing on more digital-centric curriculum;
- supporting university administration on capacity building programs around leadership development, management training, use of technology and fundraising skills;
- offering joint online programs, classes and trainings with both the African and G20 institutions and supporting other digital learning opportunities; and
- providing limited grants to help African institutions to “modernize” classrooms in order to create space better equipped to make use of technology.

Interventions like these will be helpful in not only building capacity in African institutions, but also for professors from G20 countries in many different sectors to gain a better understanding of Africa and the opportunities available on the continent. This better understanding has great potential to lead to greater research collaboration as discussed in the next section.

Finally, G20 countries should support the capacity of African countries in shifting education policies, curricula and infrastructures at tertiary and TVET institutions in order to better equip Africans with the skills and competencies needed to adjust, adapt, and innovate in our ever-digital world. As new technologies replace jobs, new jobs are also created. In order to retain employability and assert competitiveness, it is critical for educators, students and workers to have the ability to evolve with technology and to pivot across jobs, occupations or industries. Africa’s higher education and TVET institutions must shift to a digital-centric approach to ensure that Africans do not lose out on jobs and opportunities in the digital era. All schools and students should be online and have appropriate digital learning infrastructures. And as noted above, university and TVET professors and administration must have the skills and capacity needed to fully embrace the new digital era. G20 countries should provide meaningful support to African countries in enhancing technology based-education and leveraging innovations to “leapfrog” rather than progress along the same development pathways previously taken by other countries.

### **Proposal 3: Collaborate on Enhancing Research and Publication within Africa**

Compared to rest of world, R&D in African universities is insufficient and inadequate, in addition to lower numbers of researchers, research publications, and the number of patents. For African universities to produce the quality of intellectual output that is needed to advance societies and economies on the continent, this must change drastically and quickly. Partnerships with G20 countries and African universities on research and publication (in both African and international journals) should be enhanced. Although many individual universities in G20 countries have agreements with African universities, the scope of these is often limited and dominated by the needs of the non-African university. In addition, many government funding opportunities are designed for universities within their countries, and this often puts African universities in a subordinate position when conducting joint research. More systematic systems for partnership should be encouraged that would seek to increase the capacity of R&D in Africa. For instance, for research conducted in Africa, more effort by funders should be made to allow African universities to lead/co-lead research. Given African universities’ deeper understanding of local circumstances and contexts,

this can increase the efficacy and reliability of research paid for by G20 countries. G20 universities should be encouraged and incentivized to collaborate with African universities on co-research, joint laboratories, and business incubators. Further, G20 countries can provide limited grant funding to African universities to better equip research laboratories.

#### **Proposal 4: Involve the Private Sector**

G20 countries should encourage more involvement of the G20 private sector companies to develop partnerships with African universities and TVET programs to improve student access, teacher training, curriculum development, and teacher facilities and equipment. These private sector companies should be establishing clear job pipelines for graduates into their companies, providing scholarships, mentorships, internships, trainings, academic and innovation prizes and hosting on-campus recruiting opportunities and job fairs. Further, private sector companies should invest in incubation hubs at universities and help drive demand for innovation by also providing markets for ideas developed at the universities. The private sector can help strengthen university-grown innovations through incubators that prepare entrepreneurs to present to angel investors. For instance, coaching from actual angel investors or venture capital companies to university students can occur. University incubators can be assisted by the G20 private sector in capacity building, such as through business plan coaching, validation, and mentorship, that can help them be more innovative and ultimately attract venture capital and access markets.

Additionally, there are opportunities to triangulate connections and collaborations between G20 universities, G20 private sector and African universities to increase private funding for research.

There are many global companies (and mostly from G20 countries) that are interested in expanding or creating a presence in Africa, but the path to do so is uncertain. Through targeted programs and partnerships between the private sector and African universities and TVET, not only will additional value be generated for these companies, but the larger aims of improving and expanding African tertiary and TVET programs will be advanced.

#### **Proposal 5: Creating an Education Fund for Africa**

Along the lines of the Global Fund to Fight AIDS, Tuberculosis and Malaria, a pooled global fund would provide grant funding to meet some of the programmatic needs described in the proposals above, from financing scholarships, to equipping research laboratories, to teacher training programs, curriculum modernization and development, including the incorporation of ICTs into online and classroom learning. Unfortunately, such a global fund for education in Africa does not currently exist. Creating such a fund for education in Africa would help strategically allocated resources and reduce duplicated efforts to improve and expand both access to and quality of tertiary and TVET education in Africa.

#### **Proposal 6: Support the Kigali Initiative**

The 'Kigali Initiative' emerged from the July 2017 conference in Kigali, Rwanda titled, 'Mobilizing African Intellectuals towards Quality Tertiary Education', where the status of higher education in Africa was debated at length and potential solutions outlined. The conference created a coalition of African intellectuals that brainstormed and held principal discussions on practical actions, and also explored possible solutions to the reform of higher education in Africa. The participants debated about the current situation of tertiary education in Africa and highlighted the key concerns with the current status as follows, and out of this arose a 7 point "call to action" towards quality tertiary education in Africa which are: (1) **Raise Awareness** by mobilizing African leaders and African society to invest strongly and consistently in upgrading Africa's tertiary education; (2) **Aim Higher** by setting the goal of having at least 25 African universities within the top 300 universities globally by 2030; (3) **Align with the SDGs and Agenda 2063** by fostering the leadership of Africa's universities through revised curricula, degree programs, police advising, research, executive trainings aimed at achievement of the SDGs and A2063; (4) **Join Forces** by creating a network of Vice Chancellors to promote the Kigali Initiative, with a secretariat at the SDG Center for Africa; (5) **Leverage Partnerships** by seeking the support of networks such as the UN Sustainable Development Solutions Network and within the United Nations and other agencies; (6) **Mobilize African Intellectuals** as well as business leaders and the diaspora to the support the Kigali Initiative and contribute to its success and (7) **Act Proactively** by preparing a Roadmap for Action outlining the steps to achieve the Kigali Initiative and funding proposals. As stated by point 5 of the Initiative, the G20 countries can be an active partner in the Kigali Initiative by helping to promote its aims and contribute to its thinking, as well as any necessary funding. Further, by taking up some of the other proposals mentioned in this brief, the G20 countries will also be contributing to the objectives of the Kigali Initiative by helping to improve the quality of tertiary education throughout Africa.

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## References

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## Existing Initiatives & Analysis