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Education 2030

# Report on Impact of Covid-19 on Higher Education and the Future of Uninterrupted Learning in Eastern Africa

## Djibouti, Ethiopia, Kenya, Madagascar, Uganda

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# Report on the Impact of Covid-19 on Higher Education and the Future of Uninterrupted Learning in Eastern Africa

Djibouti, Ethiopia, Kenya, Madagascar, Uganda

# FOREWARD

Following the sudden closure of tertiary and higher education institutions due to Covid-19 across Africa, UNESCO commissioned studies in five countries in the Eastern Africa region, namely Djibouti, Ethiopia, Kenya, Madagascar and Uganda, to determine the challenges faced by each country and resulting strategies to ensure uninterrupted learning during the pandemic and in the future. The findings of each study were shared in a webinar on September 22, 2021 with participants from across Africa and beyond. The Webinar Agenda is included in this publication, along with the Opening and Closing remarks made by UNESCO and Keynote address by the IUCEA, Uganda.

# OPENING REMARKS

**Dear colleagues and friends,**

Greetings from the UNESCO Regional Offices for Eastern and Southern Africa. A very good afternoon and a warm welcome to all connected to this Online Higher Education Webinar for Eastern Africa, which will discuss the Impact of Covid-19 on Higher Education and the Future of Uninterrupted Learning in Eastern Africa.

COVID-19 took the world by storm in 2020 and the pandemic proved to be more than a health crisis. It triggered a socio-economic crisis and ILO estimates that 400 million jobs were lost globally due to closures across sectors. The COVID Pandemic has also had devastating impact on education systems globally, and this has affected learning at all ages, all levels, including Higher and Tertiary Education, and in all corners of the world. Some of the impacts of COVID-19 on THE institutions include:

- Disruption in the transition from secondary to tertiary education;
- Drop in enrolment rates at tertiary level, especially for women;
- Connectivity issues between urban and rural;
- High cost of connectivity and data
- The financial losses of THE due to COVID
- The psychological impact of adaptation by faculty, students and parents;

However, as the saying goes – *Never waste a good crisis* – and indeed the ICT sector wasted no time in promoting video conferencing and other online platforms as a solution to ensure continuity of business, of education and social interaction.

When the Pandemic hit the world, the world turned into e-mode; but not in Sub-Saharan Africa, which lacks ICTs and energy access; e.g., over 50% of schools in SSA have no energy access, let alone ICTs. So this has pinpointed the need to fast track (renewable) Energy and ICT infrastructure in Africa. And while many Tertiary and Higher Education institutions do have ICT facilities, these are usually not available for students at home, and if they are the costs are prohibitive.

In the meantime, UNESCO's Global Coalition for Education brought forth many partners in higher education with pro-bono offers to countries in the Eastern Africa region in the shape of:

- Smart Classrooms,
- Free software with training for online courses,
- Digital libraries,
- Free online courses for academic pursuits and/or upgrading skills to reorient career options
- Free online training on teaching and conducting exams
- Training on big data
- Learning Management Systems (LMS) with training
- Access to digital platforms for meetings, and webinars like this one.

It is clear that COVID has really pushed the urgent need for Africa to accelerate digitization to the forefront. And the Tertiary and Higher Education sector is probably best placed to turn this challenge into huge opportunities.

Let's face it, already before COVID the Tertiary and Higher Education (THE) institutions in Africa faced tremendous challenges relating to resources (financial, facilities, staff, networks), access, capacity, research output, quality (only 2 African universities appear in the top 200 World University Ranking, both in South Africa), gaps in quality assurance, and lack of harmonisation, mobility and cooperation. This calls for a radical transformation of the THE Sector in Africa.

All these challenges could be addressed via three key aspects that must be central to this debate on transforming Higher and Tertiary Education: relevance, quantity and quality. Digitisation, connectivity and cooperation presents cost-effective ways to address these three aspects.

Technology and digitalisation will make higher education more accessible and available. E-learning brought the 'quantity leap potential'. It also presents a way to achieve Cost-effectiveness. Connectivity, networking and collaboration will bring the 'quality leap potential'. Imagine what happens to quality of MSc, PhD and research programmes if you put together, in one specific discipline, the best brains, knowledge and infrastructure of a large number of universities. This is the 'quality leap potential', and this will in fact help address all three key aspects I referred to earlier.

So the key to drive quality, quantity and relevance of THE is connectivity, collaboration and networking. And, of course, we should not rely merely on digital formats and connectivity; I believe the future of THE will move towards blended learning approaches, which besides the digital format allows for classroom, fieldwork and laboratory experiences, and includes mobility of students, teachers and researchers.

In closing, let me emphasise that this will also be the way for THE institutions in Africa to benefit from the Addis Convention on Higher Education, which came into force in December 2019. I would really urge all countries that have not yet done so, to ratify the Convention because it will facilitate and in fact accelerate the transformation towards enhanced quality, quantity and relevance of Higher Education I described earlier.

Let me now leave you to listen to our distinguished panelists to see how Higher Education in each of the five countries in the Eastern Africa region responded to the pandemic and what we can all learn from their experience, challenges, solutions and recommendations to their peers, governments and policy makers.

Thank you for your attention.

**By Prof. Hubert GijzenDirector, UNESCO**
Multisectoral Regional Office for Eastern Africa

# KEYNOTE ADDRESS

During its 10th Annual Meeting held from the 21st to the 22nd June 2019, the Inter-University Council for East Africa (IUCEA) chose the following for its theme: *Effectively Leading Universities in the Context of ICT and Digitalization of Higher Education in East Africa*. The participants were drawn from the vice-chancellors of the over 130 member universities of the Council. The objective of the conference was, and I quote,:

… that the discussions from this meeting will stimulate policy and decision-making in higher education institutions to reposition themselves and embrace the use of ICT in digitalization of core functions of their institutions to prepare the next generation of the East Africa Community (EAC) citizens within the on-going global socio-economic transformations that are driven by use of ICT.

The organizers identified five opportunities for the vice-chancellors attending the forum to do the following:

1. Listen to current regional and international practices and experiences that will be presented by an experienced expert in the field

2. Share their experiences in implementing ICT and digitalization of education in their specific institutions

3. Share their visions for the future and strategies to achieve their visions in their specific universities

4. Devise regional strategies for effective utilization of ICT and Digitalization of higher education in East Africa

5. Benchmark against each other and experiences beyond East Africa

After the two days conference, the vice-chancellors resolved to follow up on the deliberations of the meeting with a view to increased digitalization of academic practice in their respective universities. One of the outcomes of that meeting was the identification of some key experts in higher education to develop capacity building modules for leaders in higher education in the region, one of which was on digital transformation.

In less than 6 months after that workshop, in December of the same year (2019), we started hearing of health concerns from the Wuhan Municipal Health Commission (World Health Organization, 2020) and within no time, the World Health Organization declared COVID-19 a pandemic. By the end March 2020, every country in the East African Community had declared confirmed cases of COVID-19. In three of out of the 6 EAC Partner States, lockdowns were declared and all institutions of learning, including universities, ordered closed. Curfews were instituted, citizens were ordered to stay indoors and work from home virtually as much as possible.

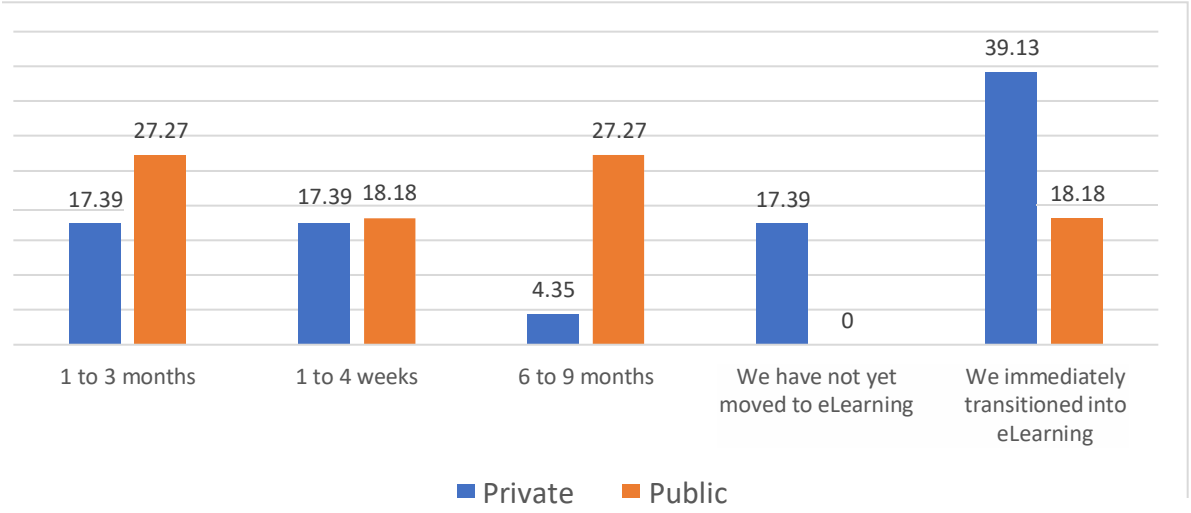
Research and data collected by global entities such as the World Bank (World Bank, 2020), UNESCO (UNESCO, 2021), American Council on Education (Taylor, Charles, Chessman, &Marie Ramos, 2021) and the International Association of Universities (Marinoni, van't Land,& Jense, 2020) collectively suggest that higher education institutions across the world experienced disruptions of one kind or the other. The World Bank report indicates that "As of April 8, 2020, universities and other tertiary education institutions [were] closed in 175 countries and communities, and over 220 million post-secondary students—13% of the total number of students affected globally… had their studies ended or significantly disrupted due to COVID-19".

The Inter-University Council for East Africa (IUCEA) has also carried out a survey to determine the effect of COVID-19 on universities in the region. IUCEA has a membership of over 130 universities and the East African community has more than 300 universities. Based on declared statistics by the member universities, we estimate anything between 1.5 million and 2 million students in the universities across the East African Community (EAC). When the pandemic struck, IUCEA was in the process of implementing two projects in the EAC and the Eastern and Southern African region. Under the African Centres of Excellence (ACEII) 60 students were on scholarships outside their own countries in diverse countries. There were 57 students under the East African Scholarship Programme financed by the German Development Bank also studying in countries outside their home countries. IUCEA, like other institutions, found itself in a crisis with students requiring stipend to live in foreign countries, fearful of contracting COVID outside their homes, and with most of their institutions closed for learning. The preliminary findings indicate similar impact to what has been identified in other parts of the world.

In a status review of the 10 universities that were hosting the 57 EAC Scholarship Programme students, IUCEA (The Inter-University Council for East Africa, 2020) established that by September 2020, six of the universities were still closed. Four universities with a combined scholars population of 18 students were in session. Three of those universities were in the United Republic of Tanzania where a lockdown or blanket closure of universities was never effected. It means that in six months only one university in Kenya, out of the number of universities that had been closed, had managed to take advantage of technology to restore full time studies.

The population of the participating universities is of course not representative of East Africa given that some countries such as Burundi and South Sudan are not hosting the scholarship programme. However, the trend is validated by our recent survey just concluded in July 2021. In the survey (Waithima, 2021)that involved more than 1600 respondents, it emerges that about 39% of private institution and 18% of public institutions were able to transition to some form of online learning immediately as per the figure below:

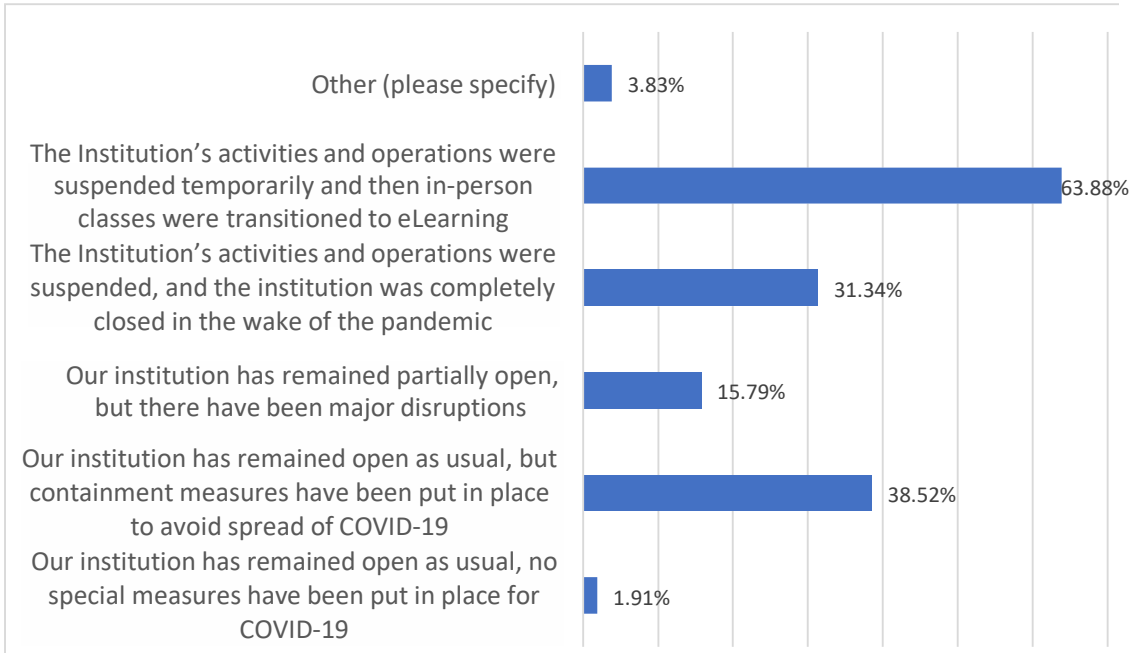
A review of the response to the pandemic by higher education institutions from across the world and the Eastern African part of the world in particular can, in my view, be summarized in what I have come to characterize as the 4F reaction: Fright, Flight, Fight and Foresight. Fright was common to all universities. As an invisible and for some time unknown enemy, COVID-19 was naturally frightening. In many cases it is still frightening even today.



The majority of universities in the Eastern African region combined *fright* and *flight*. They closed their campuses, teaching and learning stopped, and students were asked to leave the university if they could. This was not peculiar to East Africa. According to Marinoni, van't Land, & Jense (2020) by the time of the compilation of their report in May 2020, "…schools and higher education institutions (HEIs) were still closed in 177 countries, affecting 1 268 164 088 learners, which constitute 72.4% of total enrolled learners" globally. The World Bank (World Bank, 2020) reported that as of April 2020 " universities and other tertiary education institutions [were] closed in 175 countries and communities, and over 220 million post- secondary students—13% of the total number of students affected globally—[having] had their studies ended or significantly disrupted due to COVID-19". In the republic of Uganda, reports are now coming about plans to re-open pre-school, P1-P3 and Seniors 1 and 2 who have had no face to face learning since the pandemic begun (Mukhaye, 2021).

A second category of universities opted to react to their fright by fighting back. Instead of closing their universities they adopted technology to provide for online learning teaching and learning. Some even conducted online graduations during the height of the pandemic. Preliminary findings from the IUCEA survey indicate that while temporary or full closure of universities in the region was high, some universities tried to initiate mitigation measures to ensure continuity of learning as represented in the table below (Waithima, 2021).

A third category of universities chose to include long term plans, which I describe as fright and foresight, in their fight against the impact of COVID-19. The pandemic forced many universities to shift online unprepared. This unpreparedness is reflected in the challenges cited by the universities in their efforts to move online. The challenges included lack of content for populating digital platforms, digital incompetence by both staff and students, poor electronic infrastructure including low internet bandwidths, pedagogical inexperience of the teaching staff, insufficient or deficient devices for online teaching and learning, absence of policy guidelines for online teaching including grading, class attendance, and student authentication amongst others. Some of these challenges were captured in the IUCEA (Waithima, 2021) survey as tabulated below:



Universities that combined fighting back with foresight embarked on putting long term mechanisms in place to ensure a strong and resilient education system that would not only mitigate against the effects of COVID-19 but also future shocks that could be caused by other disruptions. Some of these mitigations include investment in digital infrastructure, capacity building programmes for staff and students for online teaching and learning, development of eLearning materials for uploading onto digital platforms, and the development of policies and guidelines to regulate eLearning amongst others.

I submit that if universities in the East African region had put into practice the recommendations and resolutions of the Kigali meeting of June 2019, they would have experienced less disruptions in their core mandate and transitioned into eLearning more smoothly. Indeed, there are reports of universities that experienced no disruption because they already had the digital infrastructure in place. Such universities maintained their student numbers, did not lay off, reduce or overload their staff and their calendars were not disrupted.

Based on the experience in the Eastern African region, I would like to propose seven areas of practice that universities should pay particular attention to in the wake of the lessons bestowed on the academic community by COVID-19. These are 1) communication 2) lifelong learning academia partnership with public and private sector, 4) pedagogy, 5) glocalization vs globalization, 6) The Techno-evolutionary leap, and 7) focus on the holistic person.

## Communication

The pandemic foregrounded the importance of communication. COVID-19 was disruptive and disorienting. The nations have got used to high level daily updates in different parts of the world, some of them delivered by no less than the heads of state. Higher education institutions, academic staff, and students required constant guidance given the fast pace of the changes that were taking place. In order to effectively communicate, institutions need robust data management and information systems, and universities must therefore form the habit of collecting and archiving contact information of their students to be able to keep them in touch with developments in their institutions. One of the difficulties we faced as an institution was keeping in tab with developments in the institutions to know which ones were shifting to online teaching and learning, which ones were fully closed, when to expect review of containment measures, what academic activities such as graduate supervision and research were continuing remotely, and whether students could stay on their campuses, especially the international students. In many cases there was no clarity on the steps to be followed should any of the students have contracted COVID-19. An efficient and functional communication system therefore needs to become central to the regional education system in place. Such a system would have ensured a better coordination system between higher education stakeholders for the good of higher education in the region.

## The Techno-evolutionary leap

Africa needs to take advantage of technology and leapfrog into the future. There is already a precedent in the form of landlines or fixed telephone lines. The mobile phone has rendered this technological step in rural Africa unnecessary. In the same vein, COVID-19 has allowed many institutions to break down barriers of time, distance, physical infrastructures, and other limitations. There is need to engage and embrace transformative technologies and revisit our strategic plans to see whether some investments need to be channeled towards revolutionary.

technologies that allow us not to wait to follow the same evolutionary path that has been followed by western institutions that developed in times when technology was not as advanced. It may be time to de-emphasize investment in physical infrastructure and put more effort in digital infrastructure such as e-libraries and other digital resources. COVID-19 has accelerated uptake of technological innovations and this should not slow down irrespective of how fast or effectively COVID-19 mitigation measures work.

## Linkage with industry

Since 2012, IUCEA has been holding what has come to be referred to as the Academia-Public- Private Partnership Forum. The aim of the forum has been to facilitate dialogue between the academy, the private and public sector for the good of higher education in the region. The surveys conducted so far indicate that public institutions remained more financially stable than private institutions, because of public funding, while private universities were able to comparatively transition to online learning faster and on a larger scale than public universities especially in Africa. The IUCEA survey shows that there was collaboration between universities and telecommunication companies to make data and communication devices more accessible to staff and students. Universities such as Mbarara University in Uganda came up with inventions, COVIDEX in this case, whose commercialization has so far proved difficult to implement. Data indicates that while research activity was negatively affected, there was an increase in research activities related to health. In the region, some universities came up with inventions and innovations that are yet to be patented and or commercialized through academic-private sector partnership. There is need to move this relationship from theory to practice.

## Lifelong learning

One of the challenges faced in transitioning from face to face to online learning was resistance from both academic staff and students. Although access to devices and unstable internet connectivity were contributory, the main driver for the resistance was techno-illiteracy. Despite our being in the 4th industrial revolution, some even argue we have moved on to the 5th , there are academics and students who have not moved on with the times. The rapid changes occasioned by the 5th Industrial revolution require lifelong learning as a key ingredient to any global citizen's skills and particularly so to those in the academia. COVID-19 amplified this need and accelerated the practice by forcing teaching and learning to move online where new technologies are inescapable. Lifelong learning must cease to be theoretical in the academy but become an integral part of the system and its members.

## Pedagogical skills

Since 2006, when IUCEA started developing the regional quality assurance system for higher education institutions in the EAC, an attempt has been made to emphasize that there is a science to teaching and learning and that this does not come naturally to academics, no matter how good they are in their areas of specialization. Some national councils and commissions in the region have formulated requirements for academics to build their capacities in pedagogical skills within stipulated periods after being hired. There are projects in the region such as PEDAL (Pedagogical Leadership in Africa (PedaL), 2021) that are seeking to inculcate a culture of acquiring pedagogical skills to improve the quality of teaching and learning. Face to face and online teaching and learning require different skills. In the initial period, many institutions simply moved their way of doing things onto technological platforms meaning they lectured just as they did before but behind

cameras through platforms such as google meet, zoom, teams and others. This might explain why one of the major concerns in the IUCEA survey is student assessment. Student assessment is being formulated as if teaching and learning took place face to face. A paradigm shift is required. I submit that academic staff need to develop a practice of consciousness of the different pedagogical requirements for face to face as opposed to online teaching and learning and prepare materials for teaching and assessment accordingly.

## Globalization vs glocalization

The term vaccine nationalism albeit undesirable has nevertheless been operational since vaccines against COVID-19 were developed. Africa has been on the receiving end of vaccine circulation with accusations being made that rich western countries have been hoarding vaccines despite acute need in Africa and the rest of the developing world. The president of the Republic of Uganda is on record acknowledging vaccine nationalism and calling upon Africa to wake up, research, develop and distribute its own vaccine (Abet, 2021). COVID-19 drew our attention to the fact that globalization might mean that an outbreak in China will affect the rest of the world, but it does not necessarily mean solidarity in dealing with the problem. While acknowledging that the west was unlikely to invest billions of dollars in the search for vaccines, America for example spent 19 billion dollars (Congressional Budget Office, 2021), and then distribute the same outside its borders before satisfying its local need, it's a call for African academies to sustain focus on local solutions for local problems in the context of what some scholars have come to refer to as glocalization interpreted as "globalization refracted through the local" (Roudometof, 2016, p. 399). This implies dealing with the world's issues to take care of local needs without being ignorant of global dynamics.

## The holistic person

In recent years, there has been a move to de-emphasize the role of arts and humanities and to concentrate on Science, Technology, Engineering and Mathematics (STEM). COVID-19 created an acute need for ventilators, oxygen cylinders, Personal Protective Equipment (PEPs) vaccines and other related science based products. There is no doubt that the pandemic validated the need to invest in science and technology. However, we are now increasingly hearing of problems related mental health. Indeed, recent surveys of leaders of higher education institutions in America indicate that one of their greatest concerns is mental health. This emerging impact of COVID-19, in my view, underlines the need for higher education institutions to treat students holistically. It is encouraging that some universities implemented psycho-social support systems as one of the mitigation practices against the impact of COVID-19. I submit that this needs to become more of a practice in higher education institutions to cover not just COVID-19 but other experiences that impact on students' and staff's mental health.

In conclusion, the key lesson for higher education institutions in the EAC, as in other parts of the world, is that there must be movement from theory to practice in terms of adoption of technology, linkage with industry, transformative pedagogies that promote deep learning, holistic student development and inculcating lifelong learning skills for both staff and students. This is the surest way to ensure resilient education systems in times of upheavals wrought by emerging technologies and challenges such as COVID-19.

Thank you.

**By Dr Mike Kuria,**
Deputy Executive Secretary,
Inter-University Council for East Africa (IUCEA),
Kampala, Uganda

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# CLOSING REMARKS

**Participants and colleagues,**

This brings us to the end of a rich discussion.

I would first like to thank our distinguished speakers from Djibouti, Ethiopia, Kenya, Madagascar and Uganda for sharing their experiences with us. I appreciate the exchange and discussions by the participants as well.

The COVID-19 crisis has taken a heavy toll on the higher education sector. This was clear from the experiences shared by the five countries.

Just to recall, more than 220 million students have been affected by university closures and the transition to distance learning. The higher education sector is likely to experience a 3.5% dropout rate – resulting in 8 million fewer students – especially in South and West Asia as well as Sub- Saharan Africa.

The pandemic has also severely impacted the physical mobility of learners, teachers and researchers, and deepened inequalities across the board.

It has revealed the urgency to equip all with digital skills and strengthen the digital infrastructure, as governments plan the future along hybrid lines.

At the same time, the past months have also unlocked more innovation than in decades, as many of you have pointed out today.

The experiences in your countries gave us many valuable lessons to learn from, solutions to challenges faced and recommendations to our peers, governments and policy makers. We should take these learnings to heart to build a stronger, resilient higher education system, especially since the pandemic situation is far from over as we all know.

You have also shown us that international cooperation is the only way forward, and that higher education institutions have a major role in driving the recovery and contributing to the SDGs.

This is why the circulation of knowledge and research between education systems is also so important and this can be facilitated by the entry into force of recognition conventions in higher education.

In the wake of COVID-19, it is particularly important in promoting the recognition of qualifications, prior learning and study periods earned remotely.

One the one hand, there is the **Global Convention on the Recognition of Qualifications concerning Higher Education**, adopted in 2019, is a milestone for mutual recognition and mobility, offering avenues for further study and employment.

On the other, you have **the 2014 Addis Recognition of Qualifications Convention for Africa**, which remains pertinent for the needs of the region. The Convention has 12 States Parties so far and in December 2021, the State Parties will convene for the first time in Lomé to discuss its implementation.

We encourage all countries on the continent to ratify it, sending a clear message that your higher education institutions are quality and that you are committed to improving higher education provision.

In Africa – where enrollment remains under 10% and where we are witnessing a proliferation of private providers – inclusive, quality assured higher education must be at the top of policy agendas.

Robust quality assurance mechanisms or agencies, which are still lacking in many countries, are key to protect the highest academic standards and build trust among education systems. Supporting African countries on this path continues to be one of UNESCO's main missions in education.

Another is the Qualifications Passport for Refugees and Vulnerable Migrants, which we are piloting to facilitate the pursuit of learning and integration into host countries.

UNESCO is also committed to enhancing higher technical education. And, I am delighted to inform you that on 4 October, UNESCO will officially launch a large-scale project to respond to skills demands in Côte d'Ivoire, Ethiopia, Gabon, Senegal, Tanzania and Uganda, focused on developing university–industry linkages, enhancing labour market-oriented teaching and competence-based learning.

The extent to which institutions gear their programmes to sustainable development – connecting education to other sectors – will be critical for ensuring that graduates are equipped to shape the future.

This is a conversation we are leading with governments, universities and other stakeholders, in preparation for the 3rd World Conference on Higher Education, taking place in Barcelona in May 2022.

I encourage and welcome you all to join us at the 3rd World Conference on Higher Education, so we can continue this conversation.

Lastly, but not the least, I wish to thank and congratulate our UNESCO regional office for Eastern Africa for the successful organization of this webinar.

Thank you.

**By Ms Maki Katsuno-Hayashikawa**
Director, Division for Education 2030
UNESCO
Paris, France

# Agenda

## Higher Education Webinar for Eastern Africa: Case Studies on the Impact of COVID-19 on Higher Education And the Future of Uninterrupted Learning Nairobi, Wednesday September 22, 2021 (14h00-15h30/Nairobi Time)

| TIME | TOPIC | PRESENTER | Institution/ Location |
|---|---|---|---|
| 14h00-14h05 | Welcome & Introduction of Meeting Objectives | **Dr Saidou S. Jallow,** Chief, Education Sector UNESCO, Nairobi<br>**Louise-Agnes Mackongo,** Liaison Officer,<br>-On Housekeeping for the Webinar- | UNESCO, Nairobi |
| 14h05-14h10 | Welcome & Opening Remarks | **Prof. Hubert Gijzen, Director**,<br>UNESCO Multisectoral Office for Eastern Africa | UNESCO, Nairobi |
| 14h10-14h20 | Keynote Address | **Dr Mike Kuria,** Executive Secretary, Inter-University Council for East Africa (IUCEA), Uganda and a founder member and first Secretary General of the East African Higher Education Quality Assurance Network (EAQAN) | IUCEA,<br>Kampala, Uganda |
| 14h20-15h10 | DJIBOUTI | **Dr Ahmed Mohamed Fahmi,** Senior Advisor to the Minister of Higher Education and Research in charge of reforms and strategic and institutional orientations of the higher education and scientific research sector | Ministry of National and Higher Education,<br>Djibouti Ville,<br>Djibouti |
| | ETHIOPIA | **Dr Wondwosen Tamarat,** Author/blogger, Associate Professor and founding President of St. Mary's University, also serving on the African Union's CESA Cluster on Higher Education. Vice-President of the Ethiopian Technical, Vocational & Education and Training and Higher Education Institutions' Association | St. Mary's University,<br>Addis Ababa,<br>Ethiopia |
| | KENYA | **Prof. Mwenda Ntarangwi,** Author and widely published CEO of the Commission for University Education (CUE) of Kenya and serves on several Boards on Higher Education | CUE, Nairobi, Kenya |
| | MADAGASCAR | **Dr Anjarasoa M. Randrianirina,**<br>Professor, Specialization in Organization/Strategic Management & Entrepreneurship | University of Antananarivo,<br>Antananarivo,<br>Madagascxar |
| | UGANDA | **Dr Philip Ayoo,** Dean, School of Computing and Engineering, and Senior Lecturer in the Department of Information Systems and Technology, Uganda Technology and Management University (UTAMU) & Deputy Executive Director in charge of research and innovation coordination, at the the African Network for Internationalization of Education (ANIE) | Uganda Technology and Management University (UTAMU)<br>Kampala, Uganda |
| 15h10-15h20 | Response to Questions in ZOOM Q & A feature | | |
| 15h20-15h30 | Closing Remarks | **Ms Maki Katsuno-Hayashikawa**<br>Director, Division for Education 2030 | UNESCO<br>Paris, France |

# Contents

# **DJIBOUTI :** Étude de cas sur l'impact de COVID-19 sur l'enseignement supérieur et l'avenir de l'apprentissage

Dr Fahmi Ahmed Mohamed
Conseiller du Ministre de l'Enseignement Supérieur et de la Recherche

**DJIBOUTI**

# Chapitre 1: Introduction

Depuis décembre 2019,la pandémie de laCOVID-19 a affecté fortement de milliards de personnes à travers le monde, avec des conséquences fortes sur l'économie et la vie de tous les jours. Depuis l'annonce d'un premier cas en Afrique au Caire, le 14 février 2020, la propagation du virus SARS- CoV2 sur le continent africain inquiète. Les autorités locales et les organisations régionales et internationales de l'aide humanitaire ont porté haut l'alerte en raison d'un système hospitalier insuffisant dans la plupart des pays, en particulier en Afrique subsaharienne. Ainsi, face aux constats de faible capacité de dépistage et de l'état du système hospitalier, l'OrganisationMondiale de la Santé (OMS) redoutant une saturation rapide des centres hospitaliers a fait part de ses craintes d'une propagation massive du virus.

Dès la découverte du premier cas confirmé au début du mois de mars 2020, Djibouti a mis en place trois mesures complémentaires: une surveillance épidémiologique sur le testing, le traçage et la prise en charge des cas positifs ; une vaste campagne de sensibilisation et un confinement dans la capitale, où vivent 80 % des Djiboutiens.

Ainsi, le Gouvernement a instauré la fermeture des établissements d'enseignement scolaire et supérieur dès le 19 mars 2020 soit douze jours après la découverte du premier cas confirmé, un militaire espagnol des forces spéciales européennes, immédiatement évacué avant de décréter, le 24 mars 2020 le confinement de la population, la fermeture des services publics et privés non essentiels et de ses frontières pour endiguer l'épidémie de coronavirus.

Du fait de sa politique de dépistage dynamique, la République de Djibouti a enregistré le plus grand taux de Covid 19 dans la région, résultat d'une politique efficace comme rapporté par l'hebdomadaire Jeune Afrique[1].

1 Comment Djibouti résiste au coronavirus in Jeune Afrique 30 avril 2020

# Chapitre 2: Cadre conceptuel et analytique

## 2.1 Méthodologie

Le présent rapport a pour ambition d'offrir un aperçu sommaire sur les réactions et pratiques de l'Université et des Instituts d'enseignement supérieurs de Djibouti dans le contexte de la pandémie de la COVID-19. Le rapport est basé sur un entretien avec les responsables des différentes institutions pour comprendre l'impact de la pandémie sur le fonctionnement pédagogique et financier.

Le rapport porte sur les réponses apportées par les deux établissements publics d'enseignement supérieur et les conséquences de la pandémie sur leur fonctionnement.

Ces deux établissements sont l'Université de Djibouti (UD) et l'Institut Supérieur des Sciences de la Santé (ISSS) qui accueillent 98% des étudiants du supérieur. Egalement le Centre d'Etudes et de recherche de Djibouti (CERD) qui est sous la tutelle du Ministère de l'enseignement supérieur tous ont connu un impact sur les activités d'enseignement et de recherche scientifique.

L'enquête a été conçue afin de mieux comprendre les perturbations causées par la pandémie de la COVID-19 sur l'enseignement supérieur et mettre en lumière les premières mesures prises par les établissements d'enseignement supérieur en réponse à la crise. Le rapport se veut une description des pratiques mises en place par les institutions et l'impact de celles-ci en termes de fonctionnement et de coûts.

Pour établir ce rapport et faire la lumière sur les sujets mentionnés ci-dessus, nous avons eu des entretiens dirigés avec la direction de l'université, de l'ISSS et du CERD : les doyens des facultés, les enseignants et les chercheurs.

## 2.2 Limites

De par sa nature même, cette enquête n'est en aucun cas une analyse complète ou exhaustive de l'impact de COVID-19 sur l'enseignement supérieur et elle n'a pas pu analyser en détail la situation ou saisir toutes les mesures mises en œuvre par les gouvernements et la communauté de l'enseignement supérieur.

Ce rapport présente deux grandes limites :

- La première procède de la méthodologie employée (entretiens dirigés). Les caractéristiques de l'entretien dirigé contiennent, on le sait, certaines limites : La personne interrogée à moins de temps pour donner son avis. Les difficultés de réaliser une étude statistique sur plusieurs entretiens.

- Enfin, la soudaineté des événements ne fut pas de nature à permettre aux responsables une analyse fine des effets des COVID-19 tous occupés qu'ils étaient à répondre au cas par cas.

# Chapitre 3: Analyse globale

## 3.1 Examen des orientations politiques clés pour les établissements d'enseignement supérieur/tertiaire en vue de la transformation socio-économique

Le développement de l'enseignement supérieur et de la recherche à Djibouti est récent. Pendant longtemps, les bacheliers Djiboutiens partaient, quand ils le pouvaient, à l'étranger, le plus souvent en France, poursuivre leurs études.

En termes de recherche, le Centre d'études de géophysique, avec son observatoire d'Arta, était un centre spécialisé autour des spécificités géophysiques de Djibouti. A partir de l'indépendance, il évolue progressivement pour répondre à des besoins d'expertise de l'État de Djibouti, devient Institut Supérieur d'Études et de Recherche Scientifique et Technologique (ISERST), puis Centre d'études et de Recherche de Djibouti (CERD) en 2002, rattaché à la présidence de la république.

Un Centre de formation des personnels de santé existant depuis 1983 au sein du ministère de la santé devient en 2007 l'Institut Supérieur des Sciences de la Santé, recrute à partir du baccalauréat scientifique ou technologique et constitue avec la Faculté de Médecine, l'outil de formation des ressources humaines pour la Santé.

Ce n'est qu'en 2000, que fut crée la première offre d'enseignement supérieur à Djibouti : le Pôle Universitaire de Djibouti (PUD) qui offrait des formations de premier cycle en téléenseignement avec des universités françaises partenaires (Besançon, Montpellier, Dijon, Grenoble etc.). L'université de Djibouti est créée en 2006, avec une offre de formation de niveau bac+2 et licence. Sa première promotion compte 460 étudiants. Elle accueille en 2020 près de 10 000 étudiants.

Le ministère de l'enseignement supérieur et de la recherche (MENSUR) est créé en 2011, avec la tutelle de l'UD, du CERD et de l'ISSS, qui prennent le statut d'Établissement Public à Caractère Scientifique, Pédagogique et Technologique (EPCSPT).

Le développement de l'enseignement supérieur s'ancre sur la Vision Djibouti 2035, adoptée en mars 2014, qui s'appuie sur le constat que « *le Djibouti de demain doit vaincre les défis majeurs de l'Eau, de l'Énergie, de la Santé, de l'Éducation pour se consacrer aux difficultés qui apparaissent au cheminement difficile du développement: le chômage massif des jeunes diplômés, l'inégalité sociale, la montée des extrémismes et la faiblesse de la cohésion nationale.* »

Dans ce cadre l'enseignement supérieur a vocation à contribuer à la consolidation du capital humain. Aussi, l'enseignement supérieur doit désormais répondre à un double défi de quantité (campus, restauration, transport), et de qualité (profils de sortie ne répondant pas toujours aux besoins de l'économie).

Il s'agit notamment :

- D'améliorer les capacités d'accueil et les conditions de vie des étudiants ;
- De développer des filières d'excellence à accès sélectif et professionnalisant (ingénieur, commerce, construction, langue).

## 3.2 Structures institutionnelles et stratégies de financement en place dans l'établissement supérieur/ tertiaire avant COVID-19

En tant qu'administration de l'État, le MENSUR s'inscrit dans la logique d'une bonne gouvernance. Ce qui suppose une vision et une direction claire, un leadership affirmé et une administration publique efficace, efficiente et compétitive, dotée d'excellentes capacités d'anticipation, de pilotage et de gestion.

L'action du Ministère repose notamment sur:

- la gestion des ressources humaines à travers un système de promotion fondé sur le mérite et la compétence, et une formation continue adéquate ;
- l'amélioration de la gestion budgétaire à travers l'adoption de la budgétisation par objectif et le renforcement de la transparence et de l'efficacité des comptes publics ;
- le développement de l'E-gouvernance, en assurant d'une part une interconnexion entre les administrations centrales elles-mêmes et leurs services déconcentrés, et d'autre part la mise en ligne des services de l'administration pour les populations.

A sa création en 2011, le MENSUR a établi un plan d'action lucide et ambitieux. Pour le décliner à son niveau, l'université de Djibouti met en place 6 commissions sur la qualité, la professionnalisation, la vie étudiante, la recherche, les examens et la gouvernance dont les conclusions ont constitué une feuille de route efficace pour conduire ces évolutions.

Le plan d'action du Ministère se donnait pour objectif général de développer un enseignement supérieur et une recherche d'excellence qui puisse :

- permettre la promotion de tous par le savoir;
- préparer à des métiers changeants et une économie mondialisée ;
- faire de la pédagogie une « industrie prometteuse »;
- promouvoir une production scientifique selon les demandes et priorités de l'économie et les attentes de la société ;
- s'engager dans un partenariat efficient et un espace globalisé ;
- assurer la pérennité du financement avec davantage d'investissements.

Son principe directeur était la qualité, se déclinant à l'intention du personnel, les programmes, des étudiants, du cadre de travail et de vie, de la gestion financière, et de la coopération nationale, régionale et internationale.

### L'Université de Djibouti (UD)

L'Université de Djibouti est l'unique université publique de la République de Djibouti. Elle a le statut d'établissement public à caractère scientifique, pédagogique et technologique. Dans ce cadre, elle bénéficie d'une autonomie administrative et financière.

Le Ministère de l'Enseignement supérieur, fixe, pour cette catégorie d'établissements, les objectifs à atteindre dans le cadre des missions qui leur sont attribuées par l'État, évalue leurs résultats, et exerce un contrôle de légalité a posteriori sur les actes de leurs Conseils d'administration, notamment pour les actes à caractère financier, transmis au Ministre chargé des finances et soumis à approbation de sa part.

L'UD est structurée en sept composantes internes ayant le statut de facultés, dirigées par des doyens : la Faculté des lettres, langues et sciences humaines (F.L.L.S.H.) ; la Faculté de droit, économie gestion (F.D.E.G.) ; la Faculté des sciences (F.S.) ; la Faculté de Médecine (F.M.), qui recrute sur concours ; la Faculté d'ingénieurs (F.I.) l'Institut universitaire de Technologie Tertiaire (IUT-T) ; L'institut universitaire de Technologie industrielle (IUT-I).

Dès sa création en 2006, l'UD a structuré ses cursus selon le système LMD. L'établissement délivre en formation initiale 17 licences générales. Elle s'est récemment engagée dans la mise en place de masters: 1 en DEG et 3 en LLSH. Les deux IUT proposent au total 8 DUT (dont un en langue arabe) et 10 licences appliquées. Enfin, la Faculté de Médecine forme au doctorat en médecine.

L'UD assure également une mission de formation continue et s'appuie, à cette fin, sur un Centre de Formation continue (CFC), qui dispense des formations diplômantes et des formations qualifiantes.

L'UD n'abrite pas d'unités de recherche officiellement constituées. Elle dispose d'une école doctorale qui accompagne les doctorants et a pour mission d'impulser la structuration d'équipes de recherche. L'établissement compte actuellement 60 doctorants et 95 docteurs, tous formés à l'étranger.

Depuis 2019, un centre d'excellence africain en logistique transport et en ingénierie est implanté au sein de la faculté d'ingénieurs, projet financé par la banque mondiale à hauteur de 15 millions de dollars pour nos meilleurs étudiants Djiboutiens et de la région.

### L'Institut Supérieur des Sciences de la Santé (ISSS)

L'ISSS s'inscrit dans une longue pratique de formation du personnel de santé à Djibouti. Créé en 1950, un centre d'enseignement du personnel hospitalier devint en 2007**,** un Institut Supérieur des Sciences de la Santé, recrutant à partir du baccalauréat scientifique ou technologique. Il constitue avec la Faculté de Médecine, l'outil de formation des ressources humaines pour la Santé.

Depuis 2013, l'ISSS, passé sous la tutelle du MENSUR, a procédé à une refonte de son offre de formation en application du système LMD. Il dispense des formations de 3 ans pour les différentes professions de santé (3ans : Infirmiers, Sage-femme ; technicien de laboratoire, préparateur en pharmacie, conduisant tous à la délivrance d'un diplôme d'État, ainsi qu'une formation continue payante.

### Le Centre d'Etudes et de recherche de Djibouti(CERD)

Le CERD offre un niveau de développement des infrastructures scientifiques de recherche diversifiée pour répondre aux besoins réels du pays. La recherche est fortement ancrée sur l'utilisation et le développement des nouvelles technologies. L'enjeu pour le CERD est de fournir à Djibouti l'expertise et les compétences nécessaires pour réussir cette transformation industrielle.

A cet effet le CERD s'affirme comme un laboratoire d'expérimentation des TIC au service de la recherche scientifique dans leur utilisation pédagogique mais aussi comme initiateur d'une démarche générale de transformation de l'économie et de la société. Djibouti, en effet, dispose des infrastructures et d'équipements offrant des potentialités pouvant aider à favoriser la croissance économique très peu exploités. Mais, l'économie Djiboutienne demeure fondamentalement consommatrice et très peu productrice d'usage économique des technologies numériques. Pour lever ce paradoxe, le Ministère doit promouvoir la diffusion des TIC dans le tissu économique.

# Chapitre 4: Conformité de l'enseignement supérieur aux mesures prescrites pour la réponse à la COVID-19

## 4.1 Situation de l'enseignement supérieur et la recherche au commencement de la crise

### La situation de l'enseignement : l'UD et l'ISSS

En mars 2020, lorsque les premiers cas de personnes testées positives à la COVID-19 ont été découverts, le premier semestre de l'année académique a été bouclé. Les examens du semestre 1 sont réalisés et les étudiants avaient effectué un tiers du second semestre lorsque la fermeture pour confinement de l'université et de l'ISSS a été décidée le 19 mars 2020.

La fermeture des institutions, toutefois, ne fut pas complète dans la mesure où l'administration des différentes composantes a été invité à étudier et installer les actions et équipements indispensables à un retour à la normal par l'installation de stations de lavage des mains, le balisage des parcours et des usages des salles pour respecter la distanciation sociale etc.

### La situation de la recherche scientifique : CERD

La pandémie du covid19 qui sévit sur la planète depuis le début de l'année 2020 a entraîné de nombreux impacts à tous les niveaux dans tous les pays du monde. Dans la lutte contre cette pandémie les pays ont dû imposer les mesures barrières mais aussi de nombreuses restrictions de déplacement.

Une telle situation à bien sûr eu des impacts dans la conduite des activités de recherche à Djibouti. On liste les principaux impacts ci-dessous :

- Impossibilité des chercheurs de se déplacer sur le terrain pour le suivi des équipements scientifiques dans les domaines de l'hydrologie par exemple ou du dépannage des stations sismiques
- Impossibilité des chercheurs à effectuer toutes missions scientifiques internationales pour les conférences internationales, les activités de recherche en partenariat, les conventions de recherche … etc.
- Impossibilité de faire venir les ingénieurs prévus pour l'installation des équipements scientifiques de haut niveau dans les laboratoires
- Impossibilité de commander des matériels et des consommables à l'international
- Visioconférences parfois moins efficaces pour les réunions dépassant un seuil critique de participants
- Retard de la production scientifique
- Retard dans les projets d'équipements et d'infrastructures
- Annulation définitive ou annulation/report de nombreux évènements comme les conférences, les séminaires ou les ateliers
- Retard dans la mise en place des fonds pour le financement de la recherche

## 4.2 Directives pour des opérations sûres

### Connaitre les « gestes barrières » et les mesures d'hygiène essentielles

Comme dans le reste du pays, la communauté de l'enseignement supérieur a été invitée à participer, par son engagement, à la protection de la population en adoptant les attitudes et gestes barrières.

Le respect de ces gestes barrières, dans les établissements d'enseignement supérieur, supposait qu'il soit effectivement possible, tant pour les personnels que pour les étudiants, d'avoir accès à des installations sanitaires munies de savon, d'essuie main jetable ou gel hydro alcoolique. De plus, il importait de veiller tout particulièrement à l'aération et au ménage complet des locaux de l'établissement universitaire, incluant notamment le nettoyage des surfaces et des objets.

### Organiser la continuité de fonctionnement des écoles, des établissements et des services

La continuité du service public d'éducation constituant une priorité contribuant à la résilience de la Nation, le Ministère a demandé aux responsables des institutions d'enseignement supérieur à faire preuve d'une vigilance particulière pour assurer la continuité pédagogique et la continuité de fonctionnement des services.

Concernant la continuité pédagogique, le Ministère a encouragé toutes les initiatives visant à ne laisser aucun étudiant sans recevoir les cours en cas d'éloignement temporaire ou de fermeture d'établissement.

Concernant la continuité administrative, les chefs d'établissements ont été invités à définir la liste des fonctions et activités essentielles qui devront être maintenues en cas de fermeture de l'établissement, ainsi que la liste des personnels susceptibles de les assurer.

Enfin, en anticipation de mesures ayant pour conséquence l'indisponibilité ou l'éloignement des personnels et des étudiants, il a été également demandé aux directions des établissements supérieurs de garantir la continuité des systèmes d'information en mettant en place des modèles de communication pour assurer la continuité de service en lien avec l'administration centrale.

# Chapitre 5: Le développement innovant dans les institutions supérieures et tertiaires à Djibouti en raison de leurs réponses à COVID-19

## 5.1 Réponse de l'Institut Supérieur des Sciences de la Santé

L'émergence de la COVID 19 a impacté l'enseignement/apprentissage à l'ISSS avec la suspension des cours durant la période de confinement du 23 mars au 17 mai 2020.

Dès le début de la crise, l'ISSS a pris l'initiative de faire fabriquer dans ses laboratoires du gel hydro-alcoolique par les étudiants des filières préparateurs de pharmacies et laboratoire sous la direction de leurs enseignants.

En s'appuyant sur les directives ministérielles et les stratégies mises en place dans les institutions étrangères partenaires, les responsables de l'ISSS ont mis en place des stratégies pour ne pas perdre beaucoup de temps et garder le contact avec les étudiants et les enseignants au cas où un confinement venait à être décrété.

### Stratégie 1/Enseignement/Apprentissage

- Formation sur la COVID-19 pour tout le personnel ;
- Sensibilisation sur les moyens de prévention (agents d'hygiène, personnel administratif et étudiants) ;

Les étudiants en fin de troisième année ont été envoyés sur le terrain en stage de professionnalisation pour renforcer les structures sanitaires.

Pour les étudiants de 2ème année (toutes filières confondues sauf la filière sage-femme), avec l'accord des étudiants et des enseignants, nous avons interverti période de vacances et période de confinement et les étudiants n'ont eu que 15 jours de vacances au mois d'août.

Les étudiantes sages-femmes de 2ème année avaient la possibilité d'être connectées et les étudiantes disposaient toutes d'un ordinateur portable. Les formatrices ont continué l'enseignement et finalisé le module entamé avant le confinement via ZOOM. A la fin du confinement au mois de mai, elles ont été envoyées, comme prévu par le programme, sur le terrain dans le cadre de leur stage.

### Stratégie 2/Retour des étudiants le 24 Mai 2020

- Les salles de cours ont été réaménagées pour respecter la distanciation physique ;
- Des points d'eau ont été mis en place sur le campus ;
- Deux masques par jour ont été distribués aux étudiants, aux enseignants et à tout le personnel de l'institution (et parfois même aux visiteurs s'ils venaient nous rencontrer sans masque) ;
- Les formateurs qui se rendaient pour l'encadrement dans les structures hospitalières étaient équipés de masque FFP2 et de gel hydro alcoolique ;

Dès qu'un étudiant ou un enseignant présentait un syndrome grippal, un test antigénique ou RT-PCR était pratiqué sans délai et la personne se mettait en isolement.

**Stratégie3/Mesures d'atténuation du retard dans la planification pour les étudiants de 3ème année**

Les mois de juin et juillet 2020 étaient une période d'examen final. Tout examen final impliquant l'élaboration et l'argumentation du travail de fin d'étude (Mémoire), il y a eu un retard dans le dépôt du mémoire, certains étudiants n'ayant pas eu la possibilité de travailler avec leurs directeurs de mémoire. L'examen a donc été reporté au mois de Septembre pour toutes les filières de troisième année.

## 5.2 Réponse de l'Université de Djibouti

La situation sanitaire exceptionnelle induite par la COVID-19 touche aujourd'hui la quasi-totalité des pays africains et requiert une approche coordonnée entre différentes institutions.

Le projet de riposte porté par l'Université de Djibouti à travers la Faculté d'ingénieurs via son Fablab (Espace Créatif), a contribuer à la réalisation des objectifs du gouvernement à travers une cible spécifique, comme le déploiement de matériels indispensables aux soins, à la protection ou à la prévention des risques sanitaires.

En effet, l'Espace Créatif a produit des écrans faciaux, un prototype de tunnel de désinfection et un respirateur artificiel à volume contrôlé. Ces fournitures ont été destinées aux centres hospitaliers, aux agences gouvernementales, aux premiers intervenants et autres travailleurs essentiels.

Un des objectifs de ce projet est donc de participer à l'effort national visant à endiguer le virus, en exploitant les potentiels d'innovation et de fabrication d'un Fablab en cette période de pénurie.

Le projet a permis très concrètement de mettre en place des produits manufacturés qui valorisent l'apport de l' université au développement de solutions à impact technologique et social immédiat pour répondre aux besoins immédiats des centres de soins en matériels indispensables aux soins, à la protection ou à la prévention des risques sanitaires.

Pour cela, quatre projets ont été déployés rapidement par l'Espace Créatif :

### 1. Conception et fabrication de respirateurs artificiels :

Les ventilateurs sont des appareils essentiels qui aident les patients à respirer lorsqu'ils sont confrontés à des difficultés respiratoires aiguës. Une cinquantaine était disponible dans les hôpitaux. Ce sont des machines complexes à usage général qui coûtent environ 20 000 euros chacun. La disponibilité des ventilateurs existants est loin d'être suffisante pour répondre aux besoins prévus. L'objectif est de mettre en place une alternative sûre, simple et peu couteuse pour une utilisation d'urgence, qui pourrait être construite et réalisée à l'aide de composants facilement disponibles et déployée rapidement.

L'Espace Créatif a lancé un premier prototype en étroite collaboration avec les hôpitaux partenaires et son fonctionnement a été validé. Les prototypes ainsi développés ont été placés dans les deux principaux hôpitaux de Djibouti.

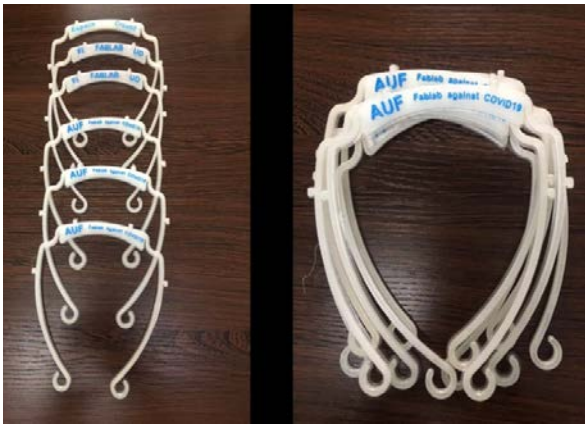
### 2. Conception et mise en place d'un tunnel de désinfection automatique :

Dans la perspective du dé confinement, outre les centres de soins, les applications possibles pour ce dispositif sont innombrables. Il peut être placé à l'entrée des supermarchés, des ports, des aéroports, et tous les lieux à haute fréquentation.

L'idée principale de ce projet était de réaliser un tunnel doté d'un système hydraulique capable de pulvériser des fines gouttelettes de substances détergentes ou désinfectantes non-volatil et totalement inoffensive. Il conserve la substance pulvérisée en saturant l'environnement. De cette façon, il est possible de nettoyer ou de désinfecter instantanément toutes les surfaces, même celles qui ne sont pas directement exposées aux pulvérisateurs.

**Figure 1:** Présentation au Président de la République du prototype de ventilateurs et des portiques de désinfection créés par L'espace créatif Fablab du CoE.

**Figure 2 :** Visières financées par le projet AUF distribuées aux centres de santé




(Source Université de Djibouti)

L'Espace Créatif a réalisé un prototype utilisant du matériel local dans un laps de temps de 2 jours.

### 3. Fabrication de visières de protection :

Les visières de protection, ou écrans faciaux, couvrent entièrement le visage, notamment les muqueuses (yeux, nez et bouche), portes d'entrée de prédilection des virus. L'Espace Créatif a déjà travaillé sur la fabrication et la distribution de ces visières pour le personnel médicale en première ligne face à la pandémie.

### 4. Fabrication de poignées de coude

La main étant le principal vecteur de contamination du virus l'Espace Créatif a lancé la confection d'objets se substituant à la main. Il s'agit d'un complément à visser autour de la poignée d'une porte pour en permettre l'ouverture à l'aide du coude, et ainsi éviter le contact de la peau et la propagation des microbes. Cela pourrait servir dans tous les lieux publics, en général, et dans les hôpitaux en particulier, pour éviter aux soignants de changer de gants à chaque fois qu'ils ouvrent ou ferment une porte.

Conformément à l'engagement de l'Université de soutenir les efforts du Ministère de la Santé pour contenir la pandémie, les équipements développés par le l'Espace Créatif ont été placé dans les hôpitaux de Djibouti à titre gratuit.

## 5.3 État de l›impact de COVID-19 sur l'année académique dans l'enseignement supérieur

Ainsi pour minimiser les risques d'échecs universitaires, le Gouvernement de Djibouti, sur proposition du Ministère de l'Enseignement Supérieur et de la Recherche après avis des instances pédagogiques et scientifiques de l'Université, a décidé dans le cadre du

déconfinement du pays le 11 mai 2020 et la reprise des cours de l'Université le 17 mai 2020[2]. L'objectif est d'éviter toute perturbation et report de l'année universitaire avec un impact financier et technique dramatique pour le budget de l'enseignement supérieur.

Cette reprise est naturellement assujettie à la réorganisation de l'espace de travail et des modes de relations inter individus afin d'assurer la sécurité sanitaire des étudiants, du personnel pédagogique et administratif. L'Université compte 11 000 étudiants à l'Université de Djibouti ainsi que 5 facultés et 3 filières de formation générale et professionnelle. Nous avons opté pour une reprise universitaire progressive en accueillant dès le Dimanche 17 mai uniquement les 2500 étudiants des filières de Licence 3ème Année et les DUT2 (filières sanctionnées par un diplôme en fin d'année), les filières de spécialité de Médecine et d'ingénierie et toutes les filières de Master. Pour les autres étudiants de 1ère et 2ième Année la reprise est pour le 31 mai.

L'enseignement à distance n'est pas pour l'Université de Djibouti une stratégie nouvelle. Elle est une alternative d'enseignement expérimentée avec d'autres universités dans le cadre par exemple de l'AUF. Néanmoins, la crise COVID-19 a démontré que malgré la mise à la disposition des étudiants de l'ensemble des établissements universitaires, des plateformes numériques interactives plusieurs questions se posent.

La première question est celle de l'accessibilité pour tous les étudiants à Internet et la seconde la disponibilité en temps limité de contenus d'apprentissage élaborés par les enseignants de l'Université. Le défi de l'accès à Internet n'est pas à ignorer quand bien même le gouvernement avait dès la création de l'Université en 2006 instaurer un service d'accès à internet à couts réduits pour les étudiants.

En outre, les conditions de poursuite de l'apprentissage ne sont pas idéales car les enseignants n'ont pas tous été formés à travailler à partir de leur domicile, et donc à des approches pédagogiques différentes que celles déployées en enseignement présentiel.

La première leçon est d'ordre interne. Il s'agira de développer l'intégration de l'enseignement à distance comme une activité institutionnelle au lieu d'une volonté individuelle. Ce qui impliquera la mise à jour des portails et des espaces numériques de travail interactives de l'Université et l'alimentation des plateformes avec des contenus.

L'accès équitable passera incontestablement par le renforcement d'installer des appuis aux étudiants des couches vulnérables pour l'accès à Internet et aux outils comme les ordinateurs et du coup réduire la fracture digitale entre les riches et les pauvres.

Il y a lieu d'abord d'évaluer la situation et d'inciter des mesures et des stratégies d'accès de cours en ligne à travers les Smartphones et les tablettes qui sont plus accessibles que les PC ou lap top. Smartphones et tablettes disposent de nos jours d'environnements compatibles avec les logiciels de bureautiques ou scientifiques courants indispensables à l'opérationnalisation des cours en ligne. Demeure la question des couts et de la couverture de Internet en itinérance (wifi, 4G).

Les universités africaines malgré la faiblesse de la connectivité et le déficit d'énergie électrique doivent disposer d'espace numérique de travail ou d'environnement virtuel de travail sous forme de plateforme de travail collaboratif à l'instar des universités du reste du monde. Cet espace constitue un point d'entrée unifié permettant à l'utilisateur d'accéder, selon son profil et son niveau d'habilitation, aux services et contenus numériques en offrant les opportunités d'échange et de collaboration entre membres de la communauté universitaire, et pourquoi pas avec d'autres communautés en relation avec l'université.

2 Cf. Circulaire du MENSUR portant calendrier universitaire rectificatif du 10 mai 2020

Ce service en ligne devrait être accessible depuis n'importe quel navigateur connecté à l'Internet pour suivre des cours, s'informer, produire des informations, consulter des ressources, organiser son travail, communiquer, travailler seul ou en groupe et ceci grâce à la formation donnée par Microsoft en partenariat avec l'UNESCO sur l'enseignement en ligne (des cours en ligne gratuits par l'UNESCO -ICHEI -IIOE).

Les outils ne manquent pas sur le marché international mais au lieu de se confiner au seul marché, il est nécessaire pour les universités africaines de développer des approches permettant non seulement l'appropriation des outils numériques mais aussi d'orienter plus efficacement les interventions scientifiques et technologiques, ainsi que les activités de recherche et développement. La salle intelligente qui a été installé en mars 2020 par l'UNESCO – ICHEI est une illustration pour soutenir les activités pédagogiques dans ce genre de situation.

L'Afrique doit considérer la recherche comme un bien public et accroître les investissements dans la science, la technologie, l'ingénierie et les mathématiques, afin que le secteur de l'éducation se dote d'une capacité adéquate de compétences pour minimiser ou prévenir la rupture de continuité pédagogique due à des conditions anormales comme la pandémie du COVID-19.

La salle intelligente, installée en mars 2020, par l'UNESCO-ICHEI avec la chaire de l'UD marque la formalisation de la collaboration entre les deux parties sur la transformation numérique de l'enseignement supérieur. Cette chaire Unesco à l'UD a contribué à développer des programmes de recherche et d'enseignement plus inclusifs. Les projets de thèse et de recherche s'inscrivent en priorité dans ces deux axes :

- le domaine des énergies renouvelables : changement climatique, villes durables, confort thermique des bâtiments, etc…
- le domaine de l'environnement : biodiversité végétale, biodiversité des ressources halieutiques de surfaces, génotypage des micro-organismes responsables de pandémies, etc…

Des activités de formation pour appuyer la recherche ont été réalisées :

- Formation courte durée des doctorants et des enseignants-chercheurs dans le domaine des énergies renouvelables
- Formation courte durée des doctorants et des enseignants-chercheurs dans le domaine de l'environnement

Par ailleurs, une révision des curricula des programmes de formation en vue de leur amélioration a été entreprise pour une meilleure insertion professionnelle des étudiants. Deux projets de Master sont en cours : un master « eau et environnement » et un master en « géosciences, ressources naturelles ».

Ce programme complète les capacités internes de l'Université de Djibouti, qui dès sa création a développé une expérience de l'usage du numérique dans l'enseignement. Avec l"IIOE , lancé en décembre 2019 par l'UNESCO-ICHEI, les enseignants de l'UD dispose de moyens de promouvoir un enseignement supérieur de qualité, équitable et inclusif grâce à l'innovation numérique en renforçant l'écosystème qui soutient la transformation numérique par le biais de la formation aux capacités TIC des enseignants, de cours et de ressources de formation en ligne partagés, et de l'assurance qualité de l'enseignement en ligne et mixte.

Djibouti s'est engagée dans le cadre de la vision 2035 dans la transformation digitale de l'économie. Cette volonté se matérialise par la création récente d'un Ministère chargé de l'Économie Numérique et de l'Innovation.

Pour aboutir, le système éducatif djiboutien et en particulier l'enseignement supérieur se voit attribuer une mission en renouveau: accélérer l'acquisition des compétences numériques pour permettre aux jeunes et moins jeunes de saisir les opportunités offertes par les métiers émergents de la transformation digitale.

La participation de l'UD aux programmes de l'UNESCO - IIOE, aux formations données par Microsoft en partenariat de l'UNESCO et celles menées par l'AUF (Agence universitaire de la Francophonie) concourent à moderniser et accroitre la qualité de la formation et de la recherche notamment par :

- la formation en ligne aux compétences TIC et aux capacités d'enseignement en ligne et mixte pour les enseignants ;
- le partage des ressources pédagogiques en ligne ;
- l'assurance qualité de l'enseignement et de l'apprentissage en ligne et mixte
- le suivi et évaluation de l'IIOE ;
- la co-organisation de conférences et d'événements sur la transformation numérique de l'enseignement supérieur ;

## 5.4 Quel est l'avenir de l'éducation supérieure/ sa préparation en générale et en cas d'une troisième vague ou d'autres pandémies dans l'avenir

Pour éviter qu'une potentielle troisième vague de la COVID-19 ne dégénère en catastrophe pour toute une génération, le Gouvernement a pris des dispositions drastiques telles que :

Le renforcement du leadership et améliorer la coordination au niveau national, avec la création d'un cadre institutionnel de gestion de crise liée à la pandémie du COVID-19[3] et d'une commission nationale chargée de l'introduction et du déploiement du vaccin Covid 19[4] ;

La mise en place de mesures de responsabilisation pour encourager l'action ;

Le renforcement du système de surveillance et d'alerte pour lui donner une vitesse de réaction ;

L'amélioration de l'accès aux ressources financières, tant pour les investissements dans la préparation que pour être en mesure d'injecter des fonds dès le début d'une éventuelle pandémie.

Au niveau de l'enseignement supérieur, la crise a stimulé l'innovation dans le secteur. Nous avons vu naître des initiatives innovantes, qui ont permis la poursuite d'activités d'enseignement et de formation. (Ce qu'offrent le Microsoft et UNESCO-ICHEI ne sont pas des innovations nouvelles. La pratique au Djibouti est peut-être une nouvelle expérience. Djibouti a rapidement adopté et s'est adapté aux nouvelles technologies car beaucoup de pays utilisaient Microsoft en tant que plateforme pour l'éducation supérieure avant la pandémie, et des cours de ICHEI-IIOE existent aussi. Dans l'avenir, Djibouti peut aussi offrir des cours en ligne payant comme d'autres universités le font via les MOOCS. Les différentes initiatives comme la formation donnée par Microsoft en partenariat avec l'UNESCO, les cours de l'UNESCO-ICHEI-IIOE sur l'enseignement en ligne ont permis le développement des capacités des enseignants à utiliser les outils numériques pour mettre en ligne leurs cours. Parmi les innovations, on peut citer plutôt les ventilateurs crées par les étudiants de l'université au service des hôpitaux et de la société. Au lieu de les importer dans l'avenir, cet équipement peut être produit et commercialisé dans le pays.

3 Décret N° 2020-066/PRE portant mise en place d'un cadre institutionnel de gestion de crise liée à la pandémie du COVID-19
4 Décret N° 2020-333/PRE portant création d'une commission nationale chargée de l'introduction et du déploiement du vaccin Covid 19

Ces innovations font apparaître des perspectives prometteuses ouvertes des changements rapides apportés aux modes d'enseignement.

Afin d'atténuer les conséquences d'une nouvelle vague de la COVID- 19, Djibouti et l'enseignement supérieur en particulier, ont pris les mesures suivantes :

**Enrayer la transmission du virus :** Pour maintenir la sécurité des établissements d'enseignement supérieur et des leurs usagers, la première chose à faire est d'enrayer la transmission en assurant la sécurité sous la coordination des principaux acteurs avec les professionnels de la santé;

**Renforcer la résilience de l'enseignement supérieur au service du développement du pays :** Pour ce faire, le Ministère de l'Enseignement supérieur a mis en place des mécanismes de consultation et de communication et le renforcement des capacités de gestion des risques dans les établissements sous sa tutelle;

Ainsi, l'Université de Djibouti et l'Institut Supérieur des Sciences de la Santé sont invités à se doter des plans d'enseignement alternatif pour faire face aux situations de résurgence de l'épidémie afin d'en atténuer les effets.

**Assurer une direction et des coordinations fortes :** Le MENSUR, dans l'optique de prévenir toute confusion ou perte de temps en cas de crise, est chargé de diriger les activités de préparation et de gestion des crises, de façon à garantir que les initiatives soient conformes aux priorités nationales, qu'elles s'inscrivent dans la durée, et qu'elles soient de nature à atténuer l'impact de la crise sur les étudiants et les enseignants.

**Améliorer les mécanismes de consultations et de communication :** Installer une coordination forte revient à entretenir un dialogue avec la communauté universitaire pour assurer la bonne mise en œuvre des plans d'urgences, répondre aux besoins des établissements et améliorer leur résilience. Pour ce faire, informer et consulter tous les acteurs de l'enseignement supérieur, y compris les enseignants et les étudiants est indispensable.

**Assurer la continuité pédagogique :** Les efforts considérables déployés en très peu de temps dans l'enseignement supérieur en Afrique et dans le Monde montrent que des changements sont possibles. L'amélioration de la connectivité des établissements d'enseignement supérieur, le développement des capacités des enseignants à utiliser les outils numériques, le renforcement des outils de suivi des étudiants et de leur participation aux cours et l'amélioration de l'articulation et de la fluidité entre les différents niveaux et types d'enseignement sont le creuset du plan alternatif du MENSUR pour que les établissements sous sa tutelle assurent la continuité pédagogique.

**REFUGIES : Quel est l'impact de la pandémie sur l'éducation des réfugiés en éducation supérieure ?**

Les centres scolaires pour les réfugiés sont de création récentes. Ils offrent un enseignement scolaire allant du préscolaire jusqu'à l'enseignement moyen équivalent au premier cycle du secondaire dans le système éducatif de l'Afrique francophone. En conséquence la demande d'études supérieures est très faible voir nulle (7 étudiants réfugiés du camp Ali Addé ont été inscrits cette année pour la première fois à l'Université de Djibouti) dans la filière anglais. Ce qui ne veut pas dire que les réfugiés ne peuvent pas avoir accès à l'enseignement supérieur. Quand la demande viendra en masse, l'UD en conformité avec les engagements de l'Etat (la convention signée par la république de Djibouti sur l'éducation des réfugiés), l'université de Djibouti accueillera beaucoup plus d'étudiants issus des camps de réfugiés.

# Conclusion

La stratégie choisie par le MENSUR a donc été une reprise des cours avec un enseignement en présentiel que l'on a souhaité alléger avec la distribution de support de cours écrits par contrainte temporelle. Néanmoins, un certain nombre d'initiatives individuelles d'enseignants visant à fournir aux étudiants des contenus électroniques partagés via WhatsApp ou à travers des blogs personnels ont été entrepris.

Il y a eu également une volonté institutionnelle pour mettre en place un appui technologique pour faciliter la transmission de connaissances. Ainsi, nous avons eu le plaisir de recevoir de la part de nos partenaires d'UNESCO-ICHEI et WEIDONG (que nous remercions) une Smart-Class installée à la Faculté d'Ingénieurs mais également la mise en place d'une solution de visioconférence à travers Google-Met à la Faculté d'Ingénieurs et à la Faculté de Médecine pour permettre aux intervenants étrangers turques et tunisiens de continuer à dispenser leurs cours malgré les restrictions de déplacements dues au confinement.

Pour la rentrée prochaine, le MENSUR par la note de service voulu que dans un délai de deux mois, l'ensemble des Cours Magistraux soient rédigés au plus tard vers la mi-août pour que les étudiants puissent les avoir sous formes papiers ou sous formes numériques dans des clés USB afin de désengorger les salles. Les interventions en présentiel seront ainsi réduites avec des nouvelles méthodes pédagogiques comme celle de la Flip Class ou de la « classe inversée » pour une meilleure appropriation du contenu académique par l'étudiant.

Pour réussir la fin de l'année il a fallu essentiellement compter sur nos propres ressources qui ont été durement impactées. Nous comptons donc sur le soutien et l'appui de nos partenaires pour nous accompagner à la rentrée 2021/2022 pour toute autre forme d'appui technique, technologique voire même financier.

La pandémie COVID-19 a montré les limites du système de santé national notamment :

- En équipements, au moins 40% des équipements médicaux sont inutilisés où sont mis à rude épreuve par les conditions environnementales, par un réseau électrique de mauvaise qualité et par l'absence de services de maintenance.

- En personnels qualifiés, notamment dans le domaine des technologies nouvelles en particulier les biotechnologies médicales.

C'est dans ce contexte que l'Université de Djibouti, compte former des techniciens supérieurs capables de maitriser les concepts et les techniques d'analyses dans le domaine de la biotechnologie médicale ainsi que des professionnels de la maintenance et de l'installation des matériels médicaux. Ainsi, le Centre d'excellence en ingénierie(projet financé par la Banque Mondiale) cogérera avec la Faculté des Sciences la nouvelle filière intitulée « Licence Biologie-Biotechnologie » et avec l'IUTI, la création de la filière « Licence professionnelle de Maintenance des Matériels Médicaux » ainsi que l'implication active de l'Institut Supérieur des sciences de la Santé (ISSS) , et le centre d'études et de recherche de Djibouti (CERD) tous pour faire face à toute forme de nouvelle pandémie et ayant pour missions de faible impact sur le secteur de l'enseignement supérieur de notre pays.

# Recommandations

L'analyse globale des mesures politiques prises pour gérer la continuité pédagogique et les examens pendant la pandémie de Covid-19 met en évidence cinq stratégies adoptées par le MENSUR et les institutions d'enseignement supérieur) Djibouti :

1. Maintien des cours et des examens prévus

2. Obligation de respect des mesures d'hygiène et de distanciation dans les espaces universitaires

3. Introduction chaque fois que nécessaire d'approches alternatives pour assurer la continuité pédagogique

4. Intégration de l'UD, de l'ISSS et du CERD dans les efforts de communication et de lutte contre la pandémie.

En se basant sur l'expérience acquise lors de la première vague le MENSUR propose les six recommandations politiques suivantes :

**1. Une approche globale du gouvernement :** Le MENSUR aligne sa gestion de la pandémie sur la politique sanitaire et sociale du Gouvernement et notamment en termes de prévention et de riposte rapide pour adapter les enseignements et l'évaluation, la reconnaissance et la validation des apprentissages au niveau universitaire.

**2. Une consultation et communication permanente :** pour impliquer les enseignants, les étudiants et leurs familles dans la prévention et la gestion de crise.

**3. 3. Continuité pédagogique pour garantir l'équité :** Envisager toutes les options (cours et examens présentiel ou distanciels) pour garantir l'équité des apprentissages lors des crises de COVID-19 ou d'autres crises. Ces options comprennent : une formation et un soutien supplémentaire aux enseignants dans la conception et la diffusion d'enseignement à distance, la reconnaissance et la validation des apprentissages des étudiants et l'organisation de cours de rattrapage en cas de besoin.

Toute décision relative au maintien de l'ouverture des centres universitaires ou de leur fermeture doit être fondée sur les orientations fournies par les autorités sanitaires nationales.

Quand les cours et examens présentiels sont maintenus (même s'ils sont reportés comme ce fut le cas en 2020), les mesures sanitaires doivent être assurées conformément aux orientations des autorités sanitaires nationales.

**4. Cours et examens en ligne :** Les cours et examens en ligne ne doivent être envisagés qu'en dernier recours et seulement si les questions relatives à l'égalité d'accès à l'infrastructure et à la connectivité, à la sécurité de la surveillance en ligne, à la transparence, ainsi qu'aux compétences et aux lacunes des étudiants en matière numérique, ont été intégrées et résolues.

**5. Approches différenciées pour les enseignements exigeant des stages pratiques sur le terrain :** Envisager en relation avec le monde du travail, des approches différenciées et sûres pour répondre au défi particulier des apprentissages en milieu professionnel.

**6. Atténuer l'impact financier sur l'université et l'ISSS :** L'impact varié de la pandémie sur le financement des universités a mis en lumière une exacerbation des tensions financières dans l'enseignement supérieur. Les effets de la pandémie en termes de création de nouvelles formes d'enseignement, d'adaptation des mesures d'hygiènes et de gestion de l'espace pour se conformer aux directives des autorités sanitaires

ont contraint les établissements universitaires à réduire leurs dépenses d'entretien et de services sur les campus.

Le renforcement du soutien financier des gouvernements et de sources extérieures est indispensable à la survie des établissements d'enseignement supérieur.

**7. Réduire la vulnérabilité des étudiants :** La pandémie a mis en lumière une exacerbation de la vulnérabilité des étudiants qui ont connu une perte de revenus conséquence de l'impact de la pandémie sur les revenus de leurs familles. En effet, les étudiants à Djibouti, dépendent de leurs familles pour couvrir les frais de scolarité et de subsistance. Le traitement donc, de la question de perte ou de réduction des revenus des familles vulnérables est nécessaire.

**8. Perturbation des activités de recherche et péri universitaires :** la COVID-19 a entraîné le ralentissement ou l'annulation des activités d'enseignement et de recherche. Une réflexion doit être menée pour prévenir la répétition de ce dysfonctionnement.

# Sigles

AUF : Agence universitaire de la Francophonie

CERD : Centre d'Etudes et de recherche de Djibouti

COVID-19 : Acronyme crée par l'OMS sur Corona Virus disease 2019

FFP2 : Acronyme anglais pour masque filtrant « Filtering Face Piece ». Le chiffre 2 correspond à l'une des trois classes de masques de protection respiratoire par ordre croissant d'efficacité

IIOE : International Institute of Online Education

ISSS : Institut Supérieur des Sciences de la Santé

IUTI ; Institut Universitaire des Technologies Industrielles

LMD : système LMD

MENSUR : Ministère de l'Enseignement Supérieur et de la Recherche

OMS : Organisation mondiale de la Santé

RT-PCR : Acronyme anglais pour *Reverse Transcription-Polymerase Chain Réaction,* une technique qui permet de faire une réaction en chaîne par polymérase à partir d'un échantillon d'ARN

SARS-CoV2 : Acronyme anglais pour Severe Acute Respiratory Syndrome *CoronaVirus* 2

TIC : Techniques de l'Information et de la Communication

UD : Université de Djibouti

UNESCO -ICHEI –IIOE

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# **ETHIOPIA:** Higher Education during the COVID-19 Era: Impacts and responses

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**ETHIOPIA**

# Abbreviations and Acronyms

| | |
|---|---|
| **EPHI** | Ethiopian Public Health Institute |
| **FDRE** | Federal Democratic republic of Ethiopia |
| **GDP** | Gross Domestic Product |
| **GER** | Gross Enrollment Rate |
| **HE** | Higher Education |
| **HEIs** | Higher Education Institutions |
| **JCC** | Job Creation Committee |
| **MoE** | Ministry of Education |
| **MoSHE** | Ministry of Science and Higher Education |
| **PHE** | Private higher education |
| **PHEIs** | Private higher education institutions |
| **UNESCO** | United Nations Educational, Scientific and Cultural Organization |
| **WHO** | World Health Organization |

# Abstract

This study was conducted to explore the impacts of COVID 19 on the academic and administrative operations of public and private higher education institutions in Ethiopia. It also examines higher education institutions' responses and the lessons of experience gained since the onset of the pandemic. The findings revealed that the pandemic has significantly affected the smooth running of the three major functions of universities related to teaching and learning process, research and community services. COVID 19 has also created some opportunities in terms of establishing the need for new forms of educational delivery and long-term planning. In fact, the covid experience has offered higher education institutions an additional opportunity to rethink their risk minimization strategies, the provision of high-quality research and education, cooperation within the higher education sector and increased support for local communities.

Key words: COVID 19, pandemic, covid impact, higher education institutions, educational delivery

# Chapter 1: Introduction

As a global crisis, COVID-19 has affected the health, economic, and social fabric of the world community at an unprecedented scale. Apart from the tremendous toll on lives, livelihoods, and economies, the repercussions of COVID are likely to have a significant impact on the human capital accumulation process in the short and long run (World Bank Group 2020). The pandemic struck Africa when the continent was performing well at many fronts. Many African economies have been booming in the last decade, with half of the fastest growing countries on the globe located on the continent. Africa's growth performance (3.4% in 2019) was expected to increase to 3.9% in 2020. With an average of 5% of national gross domestic product (GDP) dedicated to education (one of the largest globally), the African region was beginning to witness a revitalization of its higher education sector prior to the onset of the crisis. However, after triggering a health crisis of unprecedented scale, the COVID-19 pandemic in Africa quickly evolved into a deep financial crisis threatening national economies and sectors like higher education which has been particularly hit by both the health emergency and the economic recession.

While the pandemic has spared no segment of education from being severely affected, higher education (HE), together with tourism and travel, has been specifically identified as one of the major sectors upended by the pandemic (The Economist 2020). The impact on higher education institutions (HEIs) has been manifested in the form of short- medium and long-term challenges such as personal and academic challenges for institutions and students; diminished resources for institutions due to unplanned expenditures; employment challenges due to the economic recession; demand for improved infrastructure to support online teaching; reduced mobility, and much more (World Bank 2020). Ethiopia has experienced unprecedented health, economic, and educational challenges since the onset of the pandemic. The closure of schools and universities put nearly 30 million students and around a million tertiary students out of institutions for 8 months (March- September, 2020). Apart from the variety of challenges students, instructors and employees faced, institutional operations have been severely affected both in the public and private domain.

This study seeks to examine the impact of COVID 19 on the sector and the measures undertaken to respond to the crisis. It investigates the issue particularly in respect to higher education institutions' missions of teaching and learning, research, and community engagement. The paper is structured in four sections. The sections that follow immediately identify the purpose and research methodology and the research context. This is followed by an overview of the COVID 19 situation both at global and national level as a background to the next section where the various national and institutional level interventions made are outlined and discussed. The last part offers the conclusion of the paper and recommendations offered in addressing the various challenges discussed.

# Chapter 2: Purpose of the study and research methodology

This study particularly seeks to examine:

(a) The pandemic's impact on the academic and business operations of public and private higher education institutions (HEIs).

(b) The responses HEIs adopted toward the pandemic including measures undertaken to address health risks, wellness and protection; provisions made for compensating learning and aspects of learning continuity; measures taken to mobilize financial resources in order to address emerging needs and efforts made to reach out the needy in the wider community.

(c) Lessons of experience gained since the onset of COVID 19.

The study was mainly conducted as a desk review using available documents, previous studies directives and COVID 19 related protocols and guidelines. This is supplemented by a series of unstructured interviews held with relevant officials and institutional leaders within the higher education sector.

# Chapter 3: The research context

Higher education in Ethiopia refers to education offered to undergraduates and graduates through various forms of educational delivery. Currently, the sector comprises 51 government and nearly 300 accredited non-government HEIs, five of which have fully-fledged university status. The 51 public universities are spread across the whole country while nearly half of private higher education institutions (PHEIs) operate in the capital city (Tizazu & Tamrat, 2011; Tamrat, 2019, 2020). The number of students at undergraduate and postgraduate levels in the sector has risen to more than one million (MoSHE, 2020), while the GER has grown to 13.4%, surpassing the African regional average of 8%- 10%. The Ethiopian government plans to increase the national Gross Enrollment Rate (GER) to 22% by the end of 2025 to promote Ethiopia's ambition of becoming a middle-income country (Ministry of Finance and Economic Development, MoFED, 2016). Nearly 50% of students enrolled in Ethiopian HEIs attend regular programs, followed by non- regular modes identified as extension (evening) classes and distance learners. The number of students at postgraduate level is over 90, 000 (MoSHE, 2020). The number of academic staff within the sector is currently over 53,000 (MoSHE, 2020). While 48,736 of them serve in the public sector, 4,800 are employed by PHEIs. In terms of qualification, only 9% of the staff in Ethiopian universities hold Ph.D., 68% hold masters and the remaining 23% bachelor degrees (MoSHE, 2020).

Public institutions are established by the regulation of the Council of Ministers and funded by the public purse (FDRE, 2019). They are administered by the Ministry of Science and Higher Education and other pertinent public entities while non- public institutions are established by individual/s, nonprofit associations (founded as cooperative society or commercial entity), and foreign universities operating in Ethiopia (FDRE, 2019). The governance system at the level of public universities comprises governing and advisory bodies, academic units, and administrative and technical support units which are dictated a priori (FDRE, 2009). Although the same regulations are not imposed on private institutions, PHEIs are required to have internal regulations that elucidate the governing bodies of the institution, decision-making procedures of academic bodies, academic programs, rights and obligations of the academic community, and grievance-handling procedures (FDRE, 2019). Just like business organizations, PHEIs (with profit or nonprofit motive) can assume a form of ownership structured around Sole Proprietorship, Private Limited Company, or Share Company. These varied forms of ownership hold implications for the management and accountability of the institutions and the manners in which they finance themselves.

As regards funding, public institutions are financed by the government while private institutions are funded through their own efforts. Public institutions receive their funding mainly from the government, albeit encouraged to involve in income generating tasks which appear to be at their nascent stage yet (Tamrat and Teferra, 2019). In contrast, no similar assistance is provided to the private sector whose major income is exclusively drawn from student tuition and fees. Due to their lack of access to public resources, student fees remain the major source of income for profit oriented private institutions. Hence, the costs of renting buildings, financing institutional growth, and operational costs are borne by the institutions themselves. Students that study at private institutions do not receive loans or are not part of the cost sharing arrangements introduced by the government.

# Chapter 4: COVID 19 and its impact on Ethiopian Higher Education

The health crisis caused by COVID 19 did not take much time to evolve into an economic, cultural and social crisis across the globe (IAU, 2020). Most of the responses sought to address these crises have had their immediate and overwhelming impact on higher education. The pandemic brought many changes in all spheres of university functions including teaching, research, and social engagement with short, medium- and long-term impacts. The conditions under which higher education had to respond to challenges related to teaching/learning, research, staff and student needs, job insecurity, university leadership, etc have been immense. Notwithstanding its negative impacts, the pandemic has also brought new opportunities in terms of reconsidering previous assumptions, modes of delivery and structural readiness and risk-management plans that HEIs have to develop in times of need.

In Ethiopia, the first case of COVID-19 was reported on 13 March 2020. On 16th March 2020, the Office of the Prime Minister announced the suspension of schools, sporting events and public gatherings for 15 days. On Friday 10 April 2020, following approval by the Council of Ministers and the House of Peoples' Representatives, Proclamation 3/2020 also known as the 'State of Emergency Proclamation Enacted to Counter and Control the Spread of COVID-19 and Mitigate Its Impact' was issued. by. The state of emergency lasted for five months (April–August 2020). The regulations issued through the Federal Attorney General included: banning public gatherings of more than four people, sporting activities, children's playgrounds, greetings by handshake, all movements at land borders, except for the flow of cargo and essential goods. While various means of transportation were allowed to operate with reduced passenger capacity, landlords were banned from evicting or increasing rents on private tenants residing in their properties. Employers were similarly prohibited from terminating their employment contracts. These decisions gave a lot of reassurance to employees in the public and private sectors (including PHEIs) and saved many employees from unnecessary hurdles.

In the first two weeks of the closure, students in public universities were asked to stay in campus and teachers had to provide lessons and tasks online. All public and private universities were also required to give the necessary awareness to students; practice the recommended hygiene and social distancing practices as recommended by government and set up task forces to respond to the crisis (Tamrat, 2020a). As of March 24, 2020 public universities were ordered by Ministry of Science and Higher education (MoSHE) to close their undergraduate programs as a result of which all students had to go back to their families using the transport arrangements made by their respective universities. The only exception was postgraduate programs which were allowed to continue online. Although the effort has been much appreciated, the decision to move online has been criticized for lack of consultation and gaps in designing and delivering online learning (Adamu, 2020). It was not easy for many HEIs to endure the impacts of the pandemic due to their little preparation and capacity. In the ensuing months, a variety of efforts were made to combat the impacts of COVID 19 with wider implications on how institutions operated during the crisis and beyond. The next sections examine these activities and the implications thereof.

# Chapter 5: Addressing the challenges of COVID's socio-economic impact

COVID-19 has had significant impact on the Ethiopian economy, especially during the first seven months when most operations and schools remained closed. Its considerable impact has been observed in the areas of tourism and hotel business, exports and imports, and remittances to the country with observable impacts in reduction of remittances, household consumption, economic growth, increased debt risks, high inflation and high unemployment rate (Zikargae, 2020). Significant revenue loss was observed in sectors such as culture, sports, entertainment, bars, transportation of persons, personal services, tourism and export-oriented manufacturing, among others. Earlier predictions by the National Planning Commission indicated possible reductions of 2.8%to 3.8% of the 2020–2021 national economy due to the impact of the pandemic. Independent researchers raise this figure to 5.6%. Ethiopia's Prime Minister disclosed that the country will need an extra US$3 billion by the end of 2020 to address the consequences of COVID 19 (Ahmed, 2020).

A related problem has been the pandemic's impact on employment. A research report by Ethiopia's Jobs Creation Commission (JCC), and International Labour Organization (ILO) predicted that in a 'low epidemic' scenario, which assumed maintaining low prevalence levels of the pandemic, Ethiopia will face a reduction of 1.53% of GDP per month, and a loss of 1.34 million jobs (JCC & ILO 2020). As regards the higher education sector, public institutions did not face serious difficulties in terms of financial burdens due to the fact that they are fully funded by the government. The biggest challenge in this regard was faced by private HEIs which over rely on student tuition and did not receive direct government support or emergency grants to keep them afloat. Most of PHEIs' challenges were related to payments of rent, invoices, staff wages and social security contributions (JCC 2020). Most private firms including PHEIs suggested waiving tax payments as the most appropriate policy measure to help them keep afloat, followed by provision of access to working capital at beneficial rates but this has not been done to their level of satisfaction since the response from government has been either minimal or non-existent. The search for support from external sources has not also been easy since institutions were losing their selling points due to the pandemic (Mello 2020). As a consequence, the balance sheets of many private institutions became unavoidably fragile and exposed them to different kinds of problems. There were, of course, measures that the government took to safeguard the economy and combat such challenges. The most outstanding measure in this regard was taken on 27 March 2020 by the national macro-economic sub-committee which issued the following measures to safeguard the economy:

- Tax exemption for the import of COVID-19 materials and equipment to be used in the prevention and containment efforts;
- Availing Birr 15 billion (USD 406,435,775) liquidity for private banks through National Bank of Ethiopia to enable them to provide debt relief and additional loans to their customers in need;
- Availing foreign currency for importers primarily importing COVID-1B goods and input materials for prevention and containment;
- Increasing the amount of money individuals can transfer through mobile banking services of Commercial Bank of Ethiopia, to limit in-person cash handling;
- Removal of the minimum price set by the National Bank of Ethiopia on the horticulture sector for flower export;

- Expedite VAT returns through the Ministry of Revenue to support companies with cash flows; and

- Undertaking measures through the Ministry of Trade and Industry to control price increments and supply shortages of consumer goods (Tamrat, 2020).

The above measures appear sector-neutral and carried a certain populist, protective appeal but they quickly translated to unrealistic commands especially for PHE. Among others, assistance targeted at the private sector in the amount of 15 billion birr was far below actual needs. It was earlier estimated that fiscal resources needed for national relief packages could reach Birr 90bn (2.3% of GDP) and central bank liquidity interventions of around Birr 47bn (1.2% of GDP) were needed (CEPHEUS Research and Analytics 2020). Even the limited assistance provided to private enterprises went mostly to manufacturing, hotel, horticulture, floriculture, and others labeled most affected by the pandemic – PHE was not on that priority list. As a consequence, financial institutions that could have provided substantial assistance to the PHE sector by reducing interest rates and offering long term loans have not been forthcoming despite some positive gestures. The only workable benefits extended to PHEIs were a 4-month employee income tax exemption, the postponement of pension payments for a few months, and regulation that banned landlords from increasing rents and evicting tenants including PHE institutions. The limitation in collecting monthly fees, and Government prohibition of both the graduation and promotion of TVET and undergraduate students to the next level created a serious problem for institutions that run these programs and immediately put many of the PHEIs in jeopardy. Government policy that crippled undergraduate finance has thus been a weightier problem for private than public since PHE depends almost solely on tuition from its undergraduates. In fact, the strain of paying monthly rent, staff salaries, and other expenses became a serious challenge in the PHE sector. Some institutions handled these challenges by taking loans from external sources and through the financial support of their owners while many others were forced to reduce the salary of their employees forced to make late payments and a few said that they have entered into litigations due to their failure to pay salaries (Tamrat 2021).

Since the state of emergency prohibited the termination of employment contracts, the loss in this regard must have been negligible both in the public and private sector. However, many institutions had to freeze new employment and stop employing part-time workers who constitute a significant portion of the workforce in the HE sector which relies heavily on such staff. In the private sector this comprises 55% contractual and part-time staff (Tamrat, 2020). Another impact of the pandemic on employment is related to the productivity of workers which has been reduced significantly after the disruption of classes (Tamrat 2021). The pandemic also had its impact on the employability of graduates across both the public and private sectors by delaying their graduation dates. The continued impact of the pandemic in the months ahead is not also clear but the issue of employment concerns around 150,000 students that higher education institutions in Ethiopia graduate annually (MoE, 2018).

Another serious challenge the pandemic brought was widening the equity gaps among learners. After universities were closed, students were forced to leave their dormitories and stay with their families, with little connection with their institutions. For many, especially those from lower economic groups universities are primary sources of meals, health care, and support services, including academic and mental health counseling (Bassett & Arnold, 2020). Ethiopian public institutions provide such services for free, with a limited cost- sharing arrangement which is paid in the form of graduate tax after graduation. Furthermore, students with dire financial problem and that used to be supported by universities through the provision of income-generating jobs in campus in offices such as Women and Youth Affairs were forced to lose their benefits. The number of such students was 8912 in 2020

(MoSHE 2020). Inevitably, the loss of social contact and socialization routines that are part of the daily experience of a higher education student must have also taken their toll in terms of socio-emotional balance leading to anxiety and depression as a result of the crisis (UNESCO & IESALC 2020). Most public universities were aware of the health challenges and have been ready to provide such services, albeit the actual level of challenge is not clear for lack of data. Private institutions had little or no arrangement in this regard.

# Chapter 6: Risk communication and prevention during COVID-19

Risk communication is "the exchange of real-time information, advice and opinions between experts and people facing threats to their health, economic or social well-being" (World Health Organization, WHO, 2019). Combating an outbreak like COVID 19 needs a well-established system of risk communication and prevention strategies but is a cumbersome task in context like Ethiopia where the health system suffers from myriads of challenges. The strategies of the Ethiopian government initially focused on developing COVID-19 communication and prevention strategies across all spheres and the community at large.

At a national level, Government response included setting up a national preparedness and response coordination scheme through an Emergency Operation Center. This was accompanied by different levels of coordination which included the establishment of (a) National Disaster Risk Management Council led by the deputy prime minister and national and regional task forces; (b) Public Health Emergency Management which incorporated a multi-sectorial national task force led by the Minister of Health; (c) The PHEM technical taskforce managed by the Director-General of Ethiopian Public Health Institute; and (d) PHEM Technical Working Group led by the national incident manager (EPHI, 2020).

The overall effort of risk communication and prevention involved the use of different risk communication and community engagement activities and media messages that focused on the impacts and risks of the pandemic; house to house screenings, conducting diagnostic tests, and applying a strict regime of rigorous contact tracing, isolation, compulsory quarantine, and treatment. Communication efforts included public announcements and messages from the Ethiopian prime minister, regular health briefings given by the Ethiopian Ministry of Health and the use of cell-phone ring tones that focus on the pandemic by Ethio-telecom. National guidelines such as a cleaning and disinfection Protocol for COVID–19, National Implementation Guide for COVID-19, Home-Based Isolation and Care Quarantine and Border Control Implementation Guide were developed by the Ministry of Health and Ethiopian Public Health Institute to assist such efforts (HESC, 2021).

Within the higher education sector, the government ensured public health prevention responses by maximizing coordination both at national and institutional levels. A national task force was set up and led by the Ministry of Science and Higher Education (MoSHE) for mobilizing relevant stakeholders towards combating the impacts of the pandemic. Individual institutions also undertook their prevention activities through ad hoc structures created for the purpose. In both cases, risk communication strategies mainly relied on community radios, webinars, emails, social media and virtual online communications that were used to initiate a series of discussions, meetings, and seminars.

# Chapter 7: Challenges and Provisions for Compensating Teaching and Learning

Farnell et al (2021) rightly note that the most visible impact of COVID-19 on higher education has been on teaching and learning which can be observed from three perspectives: the higher education institution perspective; the teaching staff perspective; and the student perspective. In an ideal scenario, online platforms should be developed in a manner that incorporates multiple learning paths and activities that engage students in interaction and promote active communication (Tamrat & Teferra, 2020). However, instituting a full-fledged online system for educational delivery is a serious problem in the African continent where the use of ICT is restricted due to lack of investment, policies and systems that promote its growth. For instance, in Ethiopia, which has the second biggest population in Africa, 65 million people has no electricity, which is a key component in ICT access (Tamrat & Teferra, 2020). A mobile handset and data cost are not cheap. Further, online instructors and students should be equipped with the technical skills that prepare them to teach and learn in the new environment and hence require strengthened support during the delivery of courses. At an institution level, universities need to have the right infrastructure, a clear organizational structure together with responsible people and budget dedicated to run the system. All of this demand a huge amount of budget, skill, material and human resource which many institutions cannot afford easily. MoSHE has made some efforts toward facilitating the process by setting up a national technical committee that was entrusted with the task of identifying, coordinating and improving information platforms for universities; identifying ICT solutions and implementing plans towards the same end; identifying technologies for meetings and infrastructural inputs towards the same end; facilitating the implementation of E-pay systems across the sector and availing information about E- commerce companies. However, the impact of such assistance is yet to be seen.

The situation is particularly worrying for students who are more vulnerable on account of their condition. When universities closed due to the pandemic, public university students, the majority of who live in rural, remote and marginal areas that lack internet access were cut off from their universities. Notwithstanding the lack of clear data on the subject, a disruption of their university education forced many students to stay idle during school closure exposing them to a variety of social and health risks. Refugee students in most public universities were, however, allowed to stay in campus and obtain the usual accommodations following agreements with their respective countries. In 2015–16 there was a total of 1,642 such students in Ethiopian public universities (MoE, 2016).

The COVID-19 crisis has had its impact not only on students but also on teachers. The majority of teachers stayed at home during the closure. Fortunately, all employees, including those in the private sector maintained their jobs and salaries during the pandemic as a result of government regulations that stipulated both public and private organizations to pay their salaries. The most evident impact on teachers was the expectation that they can continue to teach online. However, this has not been an easy task due to the sudden shift to this new modality. For many teachers the learning curve for the efficient use of technology in distance higher education has been very steep and required external support in the technological and pedagogical fields (UNESCO & IESALC, 2020). Many universities had to provide trainings and create institutional platforms for exchange of mails

and lessons. MoSHE similarly availed its platforms such as the Ethiopian Higher Education Research Network (ETHERNET) to provide significant support for public and private higher education institutions to share information and resources. However, catching up with the new change was a serious challenge even at postgraduate level where lessons were allowed to continue online. Administering end-of-term or end-of-year exams was also a serious hurdle both in public and private HEIs. Very few institutions replaced in-class exams with online exams though most sought alternatives like project-based assignments. There were also institutions that had to offer face to face final exams due to their limitations. Prospective tertiary education students preparing for entry or admission to universities in September 2021 were also impacted due to the postponement of secondary school-leaving exams. Another challenge teacher have been facing is the work load that has increased due to the COVID protocols. The reduction of class size from an average of 50-60 to 30 students has implications in terms of the number of classes they have to cover.

# Chapter 8: Impact on Research, Innovation and Cooperation

COVID 19 has forced many of the regular research activities carried out by universities to be interrupted. This was mainly due to the closure of labs, travel restrictions and interruption of field investigations which had substantial impact in delaying university research projects, student research work and dissertation. The impact of the pandemic on research activities in Ethiopia has been more observable in the case of public universities whose research output has been reduced relative to the huge number of academic staff and resources dedicated for the same purpose. The impact on PHEIs is minimal or non-existent because very few private institutions engage in research.

In response to this new scenario, the public sector did not take much time to shift its research focus to issues related to the pandemic itself and ways of mitigating the challenges. The major engagements of public universities in COVID related research were dictated by the need to respond to the following questions which were identified by sector representatives:

What kind of scientific data shall universities collect to help understand local context of the pandemic and to use the recommendations for interventions?

What common research questions shall universities raise (in the areas of social sciences, natural sciences, education, agricultural sciences, nutrition, public health/health sciences etc) to have a national picture of the pandemic and to make use of the findings for interventions and future research?

To assist this process, MoSHE took the initiative in March 2020, to establish a 27-member multi-disciplinary national coronavirus research taskforce (NCoVRT) to prime COVID-19 research prioritization and mitigation measures (https://ssrn.com/abstract=3608055).

Data obtained via email from public universities during the first year of the pandemic (until August, 2020) indicates that most of the research projects were directed toward infection prevention and control, followed by psychosocial assessment and economic analysis. The budget for these activities were drawn from specific projects that universities developed, encouraged by MoSHE and the Ministry of Health and endorsed by the Ministry of Finance and Economic Development which controls the national bursary.

Another opportunity COVID 19 provided to many universities is to be innovative in terms of their responses towards the various challenges posed. University labs and teaching centers have shifted into producing essential health and sanitary items needed in preventing the spread of the pandemic. This included using chemical laboratories to produce sanitizers and liquid soaps and using fashion design labs to produce masks and medical apparel. These activities were largely prompted by a lack of such resources in the market. In order to respond to a shortfall of preventive equipment and curative medicines a number of universities have also been involved in designing, developing and producing prototype headgear, ventilators, 'oxygenators' and even dedicated software (Teferra & Tamrat, 2020). Many public universities in Ethiopia, owing to their resources, have also been chosen as the best locations for storage of medical supplies and quarantine centers for patients. The decision was taken in line with government direction to mobilize national resources towards responding to the crisis.

Information obtained from individual universities also shows that HEIs have been affected in starting new partnerships and continuing their former

**Table 1:** Research conducted by public universities related to COVID 19

| Research thematic areas | No of projects | Male | Female | Total no of researchers | Budget |
|---|---|---|---|---|---|
| Infection and prevention control | 79 | 416 | 25 | 460 | 20,736,686.10 |
| Clinical management and biomedical issues | 16 | 55 | 6 | 72 | 3,133,988.50 |
| Physical distancing and NPI | 5 | 15 | 1 | 16 | 251,177 |
| Epidemiological studies | 6 | 23 | 1 | 24 | 327,767.20 |
| Indigenous knowledge/Medicinal plants | 10 | 48 | 18 | 66 | 2,713,097 |
| Economic analysis | 52 | 146 | 26 | 185 | 3,970,311.85 |
| Ethics and related issues | - | - | - | - | - |
| Modelling | 9 | 31 | 1 | 32 | 815,620 |
| Community engagement | 6 | 38 | 3 | 46 | 1,088,342.15 |
| Animal- Human and environment interface | 6 | 26 | 0 | 26 | 294.859.85 |
| Genomics and Strain diversity | - | - | - | - | - |
| Technology | 28 | 138 | 12 | 161 | 209,183,771.25 |
| Product development | 2 | 7 | 0 | 7 | 423,150 |
| Psychosocial assessment | 73 | 318 | 42 | 440 | 9,816,163.94 |
| **Total** | **292** | **1261** | **135** | **1396** | **252,754,934** |

Source: MoSHE

collaborations with foreign partners as a result of the COVID-19 crisis. The same appears to be true about cooperation among local institutions and with relevant stakeholders (HESC 2021). Universities similarly report negative impact on the mobility of students and academic staff which will take time to go back to its previous status.

# Chapter 9: Impact on Community Engagement

For the large majority of HEIs across the globe, COVID 19 has created positive impact on community engagement. Ethiopian universities have been actively involved in various community related tasks since the onset of the pandemic. Most of the envisaged tasks required responding to the following key questions developed by the sector and held meaningful implications in handing the pandemic:

1. How should universities render their community service/engagement activities at this tough time given their distribution throughout Ethiopia versus access to our rural/urban communities?

2. How best should university students, who are now with their family in their home towns, and also university instructors serve their community in awareness creation and other activities against COVID-19?

3. How should our universities with some infrastructure for health/biomedical research collaborate with global research institutions on COVID-19 clinical trials/ vaccine trials, etc? How can universities collaborate with continental organizations such as Africa CDC to build their capacities and also to contribute in the continental activities Africa CDC is engaging in?

4. What precautionary measures/standards were to be followed as the dormitories of our universities are being prepared to serve as isolation sites?

Most of the critical activities in which universities were involved helped to complement the poorly resourced health system and the challenges faced by the wider community. This included philanthropic activities that ranged from fundraising, providing food items like bread and injera to the poor to supporting the weak, the sick and the elderly. Most universities provided community and social support by assigning responsibility for coordinating community and social support services within their own institutions or played a significant part in such coordination efforts through their participation in similar arrangements created by their respective local administration. The major areas in which universities provided support to the surrounding community depended on their relative strength to meet current community needs and demands.

University students were also involved in voluntary activities within their communities to fight the spread of the pandemic. Institutions, in close cooperation with their respective communities and authorities, made efforts to deploy students in a number of public awareness initiatives that included reaching out to their communities in markets, religious institutions and other public spaces to raise public awareness of the disease (Teferra & Tamrat, 2020). Materials that have been produced, packaged and translated at the universities have been used in these endeavours. Universities that own community radio stations have used them for the same purpose. The readiness to respond to societal needs has earned many institutions appreciation and appears to have helped them to regain the progressively eroding societal trust (Adamu, 2020) by rekindling volunteerism in multiple direct community services (Teferra & Tamrat, 2020).

# **Chapter 10:** Leadership Challenges

Turning the covid crisis into an opportunity required a degree of change at the institutional level in what are considered as the "job requirements" for university leadership. In many contexts, leaders of HEIs have been "run over by reality" and had to take responsibility for the various institutional activities: ensuring the continuity of classes; making educational resources available in a digital format; obtaining resources for university hospitals; mobilizing research groups capable of delivering potentially relevant contributions; giving interviews to the press (Samoilovich, 2020).

In the Ethiopian context, leaders have been forced in an unprecedented manner to address the challenges caused by the pandemic. This involved providing schemes for information provision on the nature of the virus; providing online education and academic support to students; and ensuring institutional continuity. One unfolding problem in dealing with the virus at the earliest phase was the type and authenticity of information available about its nature and the precautionary measures to be taken. There was explosion of information, misinformation and myths that needed to be sorted and properly communicated to the community. Successful leaders were able to identify the best institutional communication channels, selecting the information to be communicated, checking its authenticity, providing translations in local languages and making the information available on electronic platforms chosen such as university websites, Facebook page, Telegram addresses and YouTube channels. In some universities SMS messages were used to alert the community to new messages and directives. Institutional limitations in ICT infrastructure and capacity, online teaching and support were also additional tasks leaders had to attend to. University leadership in many institutions had to set up task forces to handle these tasks and follow-up their implementation.

University leaders-especially those in the public sector- had a role in coordinating activities such as producing sanitary materials such as sanitizers, soaps, gloves and masks. This task has been a major challenge due to shortage of such items and in some cases hoarding by some traders. Materials obtained had to be rationed and distributed based on critical need. The setting up of washing corners at the gates of all university campuses and at identified locations within university compounds required similar attention. Institutional operation also required responsibility for ensuring the continuity of the annual plan of the university by reminding units about their additional and regular tasks and following up on their execution. In the case of private HEIs, institutional limitations in collecting fees and paying salary and rent forced many leaders to abandon their normal institutional plans and attend to the day-to-day challenges they faced (Tamrat, 2021). The struggle to convince students to pay and employees to share the financial strains of institutions were also major occupations of institutional leaders, especially for the first one year. Although things have improved since the re-opening, the feeling of uncertainty still lingers in many institutions, especially the private ones.

# **Chapter 11:** Re-opening of Universities

Ethiopian HEIs institutions were reopened in September 2020 after the House of People's Representatives issued a directive in accordance with guidelines set by the Ministry of Health. The decision appears to have been influenced by academic and economic considerations. One major apprehension in this regard has been whether institutions will have the capacity to enforce social distancing, conduct testing, isolate contaminated students, and do thorough tracing on regular basis. To this end, in addition to galvanizing the preparation toward the re-opening, MoSHE developed a directive and conducted site supervisions before allowing public and private institutions to operate again. The broader purposes of the directive aimed at directing the teaching and learning efforts at institutions in accordance with a uniform guideline at a national level. The directive mainly addressed issues related to learning, teaching and evaluation, student services, precautions to be taken in the care, treatment and death of COVID 19 suspects and patients, the role of stakeholders, misconducts and disciplinary measures and penalties to be undertaken when institutions or individuals fail to abide by the regulations.

From the outset, some of the requirements were challenging for many public and private institutions. For instance, teaching and learning was suggested to be undertaken online unless the specific nature of the course made it difficult. This was literally impossible given the different limitations as regards online provisions. Classroom size was reduced based on the required distance between students and teachers were required to work eight hours a day to respond to the requirements of the new arrangement. Continuous evaluation and feedback were suggested to be handled through e-mail with the requirement that institutions develop the use of technologies to minimize manual paper handling. Requirements such as completing student research in two months after students returned to their universities were difficult to meet although MoSHE's guideline gave the right for HEIs to think of alternatives that will reduce the time requirement and prevent health related risks during data collection. For many institutions, especially the ill-resourced private ones, these requirements have been unreachable. It appears that the challenges are still creating a lot of strain on many institutions though it is not clear whether MoSHE has been successful in terms of enforcing its directive.

The reopening has brought certain challenges in covering interrupted courses. Immediately after the reopening the semester length in public universities was drastically reduced from four months to 30-45 days. Large numbers of students were forced to miss out on the practical component of their education on programs such as medicine and engineering. In addition to the study delays caused by the pandemic, many final year students did not get the opportunity to undertake or complete their internships which must have affected their work readiness and delayed their graduation. Many did not also find a job easily due to the delay in graduation. Besides the adverse impact on the quality and relevance of the educational experience and employment opportunities during COVID-19, there is a concern of increased mental health problems among students about which very little is known. Some public universities claim that they provide psychological support such as counselling to students after the reopening of universities (HESC, 2021). For the majority of higher education institutions, however, available resources and support schemes still continue to be insufficient to create a safe environment for students and teachers, despite the fact that institutional leaders are continuing their efforts along the same line.

# **Chapter 12:** Conclusion and Recommendations

COVID-19 has had a profound and damaging impact on all types of HEIs in Ethiopia. Though its impact is being felt across the whole sector, the threat tends to be greatest to the ill-resourced and self- supporting PHEIs and particularly the newest and weakest institutions which are facing serious headwinds. The long-term effects of COVID-19 on higher education and the shape of the recovery is still difficult to tell with certainty, but there are lessons that the system can glean from the experience so far.

Within the higher education sector, such 'a good crisis' is expected to spur creative rethinking about some of the traditional ways of doing things. Among others, if current challenges have proved anything in the delivery of education, it is the need for HEIs to commit hugely to the building of their ICT infrastructure to ensure that programs continue to run in the face of difficult times now and in the future. However, in contexts like Ethiopia, such ambitions cannot be realized without meaningful government support and intervention, and particularly MoSHE's assistance in building the capacity of HEIs. This is notwithstanding the fact that the government is already overwhelmed by a multitude of social, political, and economic pressures unleashed by COVID-19. While solving the challenges of the economy remains key to addressing anticipated problems caused by COVID-19, there is need for close monitoring and substantial intervention to curb the continued impact of the pandemic.

Given the unending impacts of the pandemic, all HEIs would be expected to move from 'a crisis management situation to more long-term planning' (IAU and ESN n.d.) by taking the experiences so far as a learning period. De Vinney and Dowling (2020) note that the COVID-19 pandemic offers universities a once-in a-generation opportunity to put their dysfunctional strategies behind them. The future of higher education demands rethinking in many ways including risk minimization, the provision of high-quality research and education, strengthened cooperation within the higher education sector and with policymakers, increased support and strength for communities and other stakeholders (IAU, 2020). Survival demands a compelling vision, the ability to recognize and adapt to changing circumstances and strong, effective leadership without which institutions in any sector are doomed (Muehlenbeck & Pineda 2019). While determination to rise above challenges and understanding one's role is important for Ethiopian HEIs, it is only by galvanizing institutional, national and international communities and getting their full participation that actions can be fruitful and meaningful. It is hence recommended that:

- Continuous and fruitful dialogues should be undertaken between the government and HE sector representatives in order to maintain the confidence institutions need in government policy aimed at ensuring institutional survival and continuity;

- Government should provide the needed support and financial assistance to HEIs to strengthen their capacity to respond to the health crisis and the possible challenges anticipated due to the continued health risks associated with the pandemic;

- Government must provide support for PHEIs in order to alleviate their various challenges and loss they experienced during the state of emergency. Private institutions especially expect meaningful interventions in areas that include tax exemptions, long-term loans, direct financial support from the government, assistance with online platforms, and access to computers with reduced costs;

- Government in cooperation with individual institutions should provide economic assistance to students who cannot support themselves during their stay at universities;

- MoSHE should strengthen its monitoring capacity and closely supervise universities to ensure that they are conducting their operations as per the directives set;

- Higher education institutions should develop the needed infrastructure that can meaningfully support their online delivery;

- Capacity building trainings that aim at training university leaders, students, teachers and pertinent members of the university community in the use of technology;

- Institutions should develop a risk plan that will help them the future with improved preparedness and self- confidence.

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# **KENYA:** Report on Impact of Covid-19 on Higher Education and the Future of Uninterrupted Learning

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**KENYA**

# Abstract

The Novel Coronavirus (Covid-19) brought with it a series of unprecedented events affecting every industry across the globe especially education. Comfortably situated in a face-to-face format of engagement, education was thrown into very uncertain waters when institutions were forced to move online to provide continuity in learning. For majority of universities in Kenya Covid-19 was a shocker to a system reluctant to embrace new ways of teaching, learning and research. Yet continuity of learning after a total shut down of universities was not an option but an inevitable reality. What measures did institutions put in place to ensure that online learning continued in an environment of uncertainty and unchartered? What are universities doing to transform their teaching practices to conform to the demands of the present reality of disruption and to anticipate the future through creative use of technology? This report presents experiences of Universities in Kenya in response to the Covid 19 pandemic to ensure continuity of teaching and learning. Using a mixed method approach, data were collected from universities on responses to the disruption caused by Covid-19. The results show varied responses and successes in providing university education in a time of disruption and uncertainty.

Key words: COVID 19; e-learning; Kenya; ODeL; teaching and learning; university education

# Abbreviations and Acronyms

| | |
|---|---|
| **CFE** | Centre for Faculty Excellence |
| **COVID 19** | Coronavirus Disease 2019 |
| **CUE** | Commission for University Education |
| **DKUT** | Dedan Kimathi University of Technology |
| **ERP** | Enterprise Resource Planning |
| **ERT** | Emergency Remote Teaching |
| **ICT** | Information Communication Technologies |
| **ICU** | Intensive Care Unit |
| **IT** | Information Technology |
| **KENET** | Kenya Education Network |
| **LMS** | Learning Management System |
| **ODeL** | Open, Distance and e-Learning |
| **UNESCO** | United Nations Scientific and Cultural Organization |
| **WHO** | World Health Organization |
| **WiFi** | Wireless fidelity |

# Chapter 1: Introduction

On March 16th, 2020, three days after the first case of COVID 19 was recorded in the country, the Government of Kenya directed that all learning institutions, including universities, close indefinitely as a measure to respond to the Covid-19 pandemic. Almost all universities in Kenya had a few more weeks of learning left in their schedule before closing. Many students had not completed their examinations, and some were looking forward to finally completing their studies and enter the world of work. Others were ready to sit their end of semester examinations and get ready for a deserved break. That was not to be. Instead, there was confusion, panic and even paralysis. Why?

University education in Kenya has primarily been conducted through the face-to-face mode with students and teachers being in the same physical space at the same time. Rarely have institutions provided programmes exclusively online. For institutions to be closed and social distancing and limited movement measures being put in place to contain the spread of Covid-19 many universities were at a loss on what to do. This was unprecedented and none had a blueprint on the steps needed to contain the challenges. It was almost as if within a period of less than two weeks universities were thrust into a place least expected or even tested. It was very clear immediately that something had to be done. But what? The answer was e-learning, whether they were ready or not. And therein lay the challenges of readiness in terms of infrastructure, technological and personnel capacity.

This report captures the responses made by universities in Kenya towards continuity of learning upon the onset of Covid 19 that rendered their earlier methods of teaching and learning untenable. It captures the general actions taken plus a few case studies of institutions that have been selected to give a deeper insight into the ways they prepared for continuity of learning.

As we know COVID 19 related school and university closures disrupted the education of more than 1.5 billion learners—over 90% of the world's student population (World Vision, 2020). By mid-April 2020, 94% of learners worldwide had been affected, representing 1.58 billion children and youth from pre-primary to university in 200 countries. Universities all over the world are now pivoting towards distance learning solutions, a departure from conventional structured learning and teaching into virtual unstructured environments.

# Chapter 2: Methodology

This report presents findings of a study carried out to determine the status of remote teaching and learning in universities in Kenya after the Covid-19 pandemic. The study collected both primary and secondary data. Primary data was collected through a questionnaire sent to all 74 universities in Kenya. The questionnaire covered several areas and key questions including: platforms and learning management systems used by universities to conduct online learning, readiness of faculty and students to teach and learn on virtual platforms, courses and programmes universities had prepared and were offering through these platforms, and percentage of students accessing online learning and availability of and access to learning materials to both faculty and students while away from the physical campus. The questionnaire was administered through email and responses were also received through email.

Secondary data was obtained from proceedings of 3rd Biennial Conference on the state of university education in Kenya, organized by the Commission for University Education in 2020 where universities shared their experiences in dealing with the Covid-19 pandemic.

Qualitative data collected through questionnaires was coded and analyzed using SPSS Statistics Software Version 25 and descriptive aspects of the findings were presented in tables addressing key questions of the study.

# Chapter 3: Preparedness for online teaching and learning in Kenya

After the government of Kenya announced the closure of learning institutions many of them adopted different methods to provide online education to their students both within and off campuses/university as an emergency response to COVID 19. Majority of the institutions adopted Emergency Remote Teaching to complete the remainder of second semester in 2020. The Commission for University Education (CUE) guided institutions to undertake this form of completion of semester work without compromising on the quality of learning. Part of the guidelines were that:

1. University Senate and Management Board continue to take appropriate measures to manage the challenges brought by Covid-19 and make sure the welfare of students, staff and administrators is taken care of;

2. While universities are operating in unprecedented circumstances, matters of providing quality education cannot be compromised and therefore institutions should follow the set Standards and Guidelines of providing university education; and,

3. The CUE processes that may require physical engagement (including institutional audits, site visits for verification of resources, and equation and recognition of qualifications among others), would remain suspended.

The CUE also held several meetings with vice chancellors and principals of universities to listen to each other, learn about what some of the institutions were doing and lessons learned, and strategies to face the Covid-19 pandemic together.

In May 2020 CUE requested universities to provide status reports on actions they had taken to prepare for remote teaching and learning in the wake of COVID 19 pandemic. Part of the request included the following:

1. Share with the Commission specific steps your institution has taken to enable continuity of learning, including:

    a. Platforms, Learning Management Systems or any other ways through which you have availed content/learning to students;

    b. The readiness and/or capacity of your faculty and students to learn and/or teach on those platforms/ways and details of any training/capacity building provided if such were deemed necessary;

    c. Courses/programmes you have prepared and/or are offering through such platforms/ways;

    d. Availability of and access to learning materials to both faculty and students while away from the physical campus;

    e. Steps you have taken to assess student learning and how such assessment followed set university guidelines on learning including meeting required contact hours; and

    f. Measures you have taken to ensure that quality is maintained in all learning activities you are undertaking.

2. Share with the Commission steps taken to establish and results thereof of the number of students able to access the learning you have offered while away from the physical campus and any measures taken to assist those that are unable to for various reasons including special learning needs or socioeconomic factors.

The reports revealed that many universities met the new challenge by adopting myriad strategies to enable continuity of learning including use of Learning Management Systems and other platforms to avail content to their learners. A few institutions that had already put in place robust online teaching and learning platforms had an almost seamless switch into online learning. Some few others struggled to even switch to online or remote teaching and learning and waited for a while before taking any action. The findings are summarized below.

## 3.1 Number of Universities using Learning Management System (LMS)

Following the suspension of face-to-face mode of teaching, a total of 64 universities (90%) indicated that they continued or transited to online teaching and learning while Seven (7) universities (10%) did not engage students in any form of online teaching. Forty-four (44) universities (62%) out of the 64 indicated that they had a Learning Management System (LMS) in place while 20 universities (28%) used other online platforms to engage in online teaching and learning. Of the 44 institutions that had LMS in place, majority (38, 86.5%) used Moodle as a Learning Management System. Other Learning Management Systems used by various institutions include Canvas, Blackboard, Sakai and Open LMS as indicated in Table 1.

**Table 1 :** Summary of the Learning Management Systems used in the universities

| Type of LMS | No. of Universities | % proportion |
|---|---|---|
| LMS Canvas | 2 | 4.5% |
| LMS Moodle | 38 | 86.4% |
| LMS Blackboard | 2 | 4.5% |
| Open LMS | 1 | 2.3% |
| LMS Sakai | 1 | 2.3% |
| **Total** | **44** | **100%** |

Other than LMS, universities provided information on other platforms that they had in place for purposes of conducting online learning. A total of 26 platforms were provided with most of the universities indicating that they used more than one of those online platforms to ensure that they reached as many students as possible. The findings indicate that Zoom was the most popular platform used by universities (38 universities, 54%) followed by Big Blu Button (31 universities, 44%) and Google classroom (20 universities, 28%). Table 2 provides a comprehensive list of the various additional platforms that universities used for online teaching and learning.

**Table 2:** Other Platforms used for online teaching and learning

| Platforms | No. of Universities using the platform | % proportion |
|---|---|---|
| Zoom | 38 | 54% |
| Big Blu Button* | 31 | 44% |
| Google classroom | 20 | 28% |
| Google Meet | 14 | 20% |
| Microsoft teams | 12 | 15% |
| Recorded Lecturers | 11 | 15% |
| Webex | 8 | 11% |
| You tube | 7 | 9% |
| Google Hangout | 7 | 9% |
| Skype | 7 | 9% |
| Enterprise Resource Planning | 4 | 6% |
| Website | 3 | 4% |
| Facebook | 3 | 4% |
| Microsoft Office 365 | 3 | 4% |
| Team viewer | 2 | 3% |
| Students Management Information System | 2 | 3% |
| Slack | 1 | 1% |
| Jitsi | 1 | 1% |

| Platforms | No. of Universities using the platform | % proportion |
|---|---|---|
| Congea | 1 | 1% |
| Sli.do | 1 | 1% |
| Google Analytics | 1 | 1% |
| Polycom | 1 | 1% |
| Televised lecturers | 1 | 1% |
| Podcast | 1 | 1% |
| Go To meeting | 1 | 1% |
| Piazza | 1 | 1% |
| Universities that did not use any online platform | 7 | 10% |

## 3.2 Communication channels used to reach students

Analysis of the communication channels used by universities to reach students indicated that majority used emails (36 universities, 40%), followed by WhatsApp (33 universities, 36.7%). Other channels used were phone calls, text messages and telegram. This information is provided in Table 3.

**Table 3:** Communication Channels used to reach students

| Communication channels | No. of Universities using the channel | % Proportion |
|---|---|---|
| Emails | 36 | 51% |
| Whats App | 33 | 46% |
| Phone calls | 12 | 17% |
| Text Messages | 7 | 10% |
| Telegram | 2 | 3% |
| Universities that did not provide any of communication channel | 7 | 10% |

## 3.3 No. of Programmes/Courses offered through online learning systems & platforms

A total of 40 universities (56%) indicated the number of programmes or courses that they were offering through online platforms while 24 (34%) did not. Seven universities (10%) indicated that they did not offer any programme through online learning.

## 3.4 Percentage of students that had access to online learning in each institution

Thirty-four universities (48%) indicated the proportion of students who had access to online learning. The overall proportion of students reached was only 23% of the entire student population in the universities as per the University Statistics report of 2019.

Out of the thirty-four universities, two institutions reached less than 10% of their respective student population, 6 institutions reached between 11% and 50% of their respective student population, while 27 institutions had managed to reach a student population of between 51 and 100% as provided in Table 4.

**Table 4** Proportion of Students taught through online platforms

| Number of Universities | % Proportion of Students undertaking online learning |
|---|---|
| 2 | ≤10 percent of respective student population |
| 7 | 11 to 50 percent of respective student population |
| 25 | 51 - 100 percent of respective student population |

## 3.5 Readiness and/or capacity building of faculty and students to learn and/or teach on online platforms and details of any training/capacity building provided if such were deemed necessary

A total of 66 (93%) universities indicated that they had sensitized their faculty and students on the use of online platforms and tools. Two institutions (3%) indicated that they had not undertaken any form of training to sensitize faculty and students on online teaching and learning while three institutions (4%) did not indicate if they had undertaken any training to faculty and students.

The report indicated that Zoom was the most popular platform used by universities, followed by Big Blu Button and Google classroom. Other platforms used included Google Meet, Microsoft teams, Recorded Lecturers, WebEx, You tube, Google Hangout, Skype among others. The report on communication channels used by universities to reach students indicated that majority used email, WhatsApp, phone calls, text messages and telegram. A total of 51% of the universities indicated that they were offering programmes and courses online while 85% indicated that they had sensitized their faculty and students on the use of online platforms and tools.

From the findings, the Commission was able to respond to emerging issues including developing benchmarks for ODeL and continues to monitor and evaluate the state of university education and to support universities as they meet challenges presented by the pandemic.

# Chapter 4: Good Practices In PromotingContinuity In Learning

This report highlights response to COVID 19 pandemic from 3 universities and 1 public institution in Kenya which were presented during a conference on the state of university education organized by the Commission for University Education in October 2020 which established challenges and gaps in leveraging technology to respond to disruptions in university education and proposed mitigation plans to enhance quality, relevance, access and student experience during the post-Covid era.

## 4.1 Developing resilient systems of learning in a Disrupted Learning Context: A Case of Kenya Education Network

Kenya Education Network (KENET), an operator of national broadband network for educational and research institutions and affiliated institutions only was established over 20 years and endorsed by Ministry of Education in 2010. KENET provides affordable high-speed (broadband Internet) to support teaching, learning and research and administrative efficiency in Universities in Kenya, it has connected over 306 university campuses in Kenya with broadband network for Research and Education and links the local research and education community to the world. During the COVID 19 pandemic, the institution supported universities to offer online education through immediate upgrade of cloud infrastructure for remote teaching and Learning Management System(LMS) hosting; facilitated whitelisting of educational resources (URLs) and mobile numbers for discounted bundles; offered 50% discount on quarterly internet bills with effect from April 2020; hosted monthly webinars with University ICT directors sharing stories of successes and challenges; developed community guidelines for remote teaching and e-learning; upgraded or hosted many new university LMSes (24 universities); and trained faculty on cybersecurity awareness and use of Moodle as a learning management system. KENET has community working group projects to enhance online teaching and learning including a working group on student laptop ownership; remote exams proctoring; virtual labs for STEM courses and integrated remote teaching platform with YouTube and Facebook for live streaming and large classes. KENET also negotiated discounted Internet bundles to increase access to many students as follows:

1. Discounted Safaricom Internet 10GB data bundles were made available to students, staff, faculty, and researchers ofbinstitutions who are KENET members with the bundles priced at approximately $5 per 10 GB. Students or staff members had the option to purchase the bundles directly from Safaricom. KENET also took a further step and whitelisted mobile numbersbthat then could purchase the bundles to access whitelisted websites/resources. Whitelisting of mobile numbers was made through a registration portal generated by KENET.

2. KENET also provided institutions information on new Safaricom APN SIM cards service with 10 GB monthly data bundles at the price of approximately $5 per 10 GB. The APN service was to be purchased by a member institution for its staff, faculty and researchers through KENET. This option gave institutions the opportunity can access all resources available as if they were at their campuses.

3. KENET also provided Internet support for institutions that needed to extend their on-campus eduroam WiFi service to neighboring private student hostels. With that service the student hostels were considered as satellite campuses and institutions only needed to pay the installation costs (e.g., for the point-to-multipoint radio links). This would give students access the FREE campus eduroam WiFi.

4. There was another service offered: Safaricom fixed access service (that needed no bundles) for remote research stations or offices, or homes of senior staff or faculty. The service was available at 3 Mb/s, 5 Mb/s or 7 Mb/s and good for senior staff and researchers who need more than 10 GB bundles and living in areas without home fiber. All these services were to be requested from KENET.

## 4.2 Support to Communities in the Fight against COVID 19: A Case of Dedan Kimathi University of Technology, Nyeri County

Dedan Kimathi University of Technology, a public university in Kenya, like other higher education institutions faced closure and disruptions of academic calendar in March 2020. To provide continuity of learning the University made the following preparations:

1. Regular training for faculty carried out in order to enhance their skills for online teaching;

2. Schools and institutes identified champions to spearhead online teaching process through peer-to-peer support;

3. Provided internet bundles to students to maximize their participation in remote learning; Rather than closing the institution, the university reorganized and strategized by mobilizing its staff and students to play a role in national response to COVID 19.

Dedan Kimathi University of Technology utilized its human resource to provide solutions that empowered the local community to produce protective equipment including masks and ICU systems including ventilators, oxygen supply systems; et cetera. The university installed a highly specialized nanomaterials research facility during the COVID19 pandemic.

As an African university, DKUT has positioned itself to deal with disruptions by establishing linkages between the university and local organizations research institutions, medical hospitals to address local challenges.

## 4.3 Uninterrupted Learning amidst Disruption: A Case of Daystar University, situated in Athi River, Machakos County bordering Nairobi

Following the closure of all learning institutions in March 2020 due to COVID 19, teaching and learning at Daystar University continued uninterrupted to date. The private university was able to attain 92% of e-learning migration of their students. The smooth transition to online teaching and learning is largely attributed to established ICT infrastructure prior to COVID 19 but also to other incentives offered to students including 15% reduction in tuition fees as well as crediting the students accounts with cash for internet bundle purchase. Constraints to online learning such as lack of electricity, inability to afford smartphones, and low bandwidth internet availability resulted in about 260 of their students being left behind. However, by October 2020, they were all recalled for make-up classes and special exams. Faculty at the university championed e-learning under

ODeL using video conference lessons, Zoom, social media, Case studies and recorded teaching materials. Specific steps taken include:

1. Intense training was provided for faculty and students through Zoom classes, online guides and telephone through the helpdesk. In addition, courses were created on E-Learning How To's', on the University's learning platform and pinned for access at any time.

2. Faculty training on the use of eLearning platform-Moodle, including refreshing on their eLearning teaching and learning skills. Further, elaborate training and instructions were given by the ICT department on how to use and navigate the eLearning platform particularly on how to teach and post materials and assignments on the eLearning portal.

3. The University's ICT department created online classes for both faculty and students to offer training in areas of need and particularly on how the Moodle platform works. The department further carried out regular induction through online demonstration and telephone calls. A few ICT personnel were also physically available in campus for faculty who needed physical help.

4. ICT support staff offered help to students and staff in activation of Daystar emails for those who had not activated them before. They also trained students on how to get enrolled in the e-learning classes and assisted faculty who needed help in creating classes on the eLearning platform, or on uploading content and assignments.

5. Different schools held online meetings/ Cum-trainings for their faculty members to ensure everyone was comfortable teaching online. A regular agenda item in these meetings was the question of lecturers' capacity to use the e-learning platform for teaching. This was necessary to ensure all students and lecturers were able to continue their classes on the Daystar e-learning platform that uses Moodle.

6. Training was undertaken through peers. Faculty members who were well versed with teaching on Moodle before took the less familiar members through training on steps of working on Moodle; preparing and uploading teaching-learning materials and activities, uploading learning resources including videos, podcasts, simulations, self-made/taped lessons, URL-links and e-books, uploading assignments, downloading responses/work from students, checking on attendance, visualizing and working on the online grade book/records and setting competencies. These meetings/trainings were held regularly for all to move together.

## 4.4 Building online faculty teaching capacity: A Case of KCA University in Nairobi County

KCA University a private university had less than 9 % of its students on distance learning and about 7.5% of its faculty were actively using a Learning Management System and e-learning infrastructure comprising of a server and 4 processors before COVID 19. The university now boasts of a robust e-learning system with 32 processors.

KCA University also established a centre for faculty excellence with the motto; "For the Faculty by the Faculty and for the benefit of the students and the Faculty which enhanced faculty teaching effectiveness through prioritising student success and promoting student academic engagement. Popularly known as CFE, the centre also enhances research productivity, support faculty professional development to create a culture of academic leadership and mentorship.

Faculty at the university have been trained in using Moodle, Video and Web conferencing platforms including Zoom, Google Meet, WebEx and Microsoft Teams and are able to engage remotely using Zoom platform purchased by the University besides receiving a monthly connectivity allowance. The faculty have also participated in pedagogical trainings which are conducted by local and international experts through webinars live streamed on Zoom.

KCA University's faculty have become more proficient in remote engagement by discovering features in the LMS that were underutilized while their students have expressed their satisfaction with the remote engagement.

## 4.5 Inventing the Future of University Education using ICT: A Case of Zetech University in Ruiru, Kiambu County

Immediately after the indefinite closure of learning institutions in Kenya, Zetech university embarked on a process to convert face to face learning materials to content suitable for online learning, training their students and faculty on adapting to the new learning environment and to upgrade their infrastructure. On the 4th of May 2020, learning resumed on a blended mode.

The University set up a web-based student's portal which allowed students to log in and access course details such as course outlines, register for units, access their results ad their fees payment details. Using *Unisol*, a software solution to manage student data, the university enabled students to register from remote locations without having to be physically on campus and monitor their progress throughout their life as students.

Using Moodle as the preferred Learning Management System, the university ensured that students submitted projects and assignments and participated in out of class discussions groups. The University integrated the LMS with their ERP to monitor students duly registered and class attendance. Through a mobile app embedded in the LMS, learners at Zetech university were able to join videoconferences or live-streamed classes from a simple mobile phone.

Faculty were trained on use of IT to teach selected blended units. Mandatory training for all faculty was also carried on how to self-record their lectures, how to access and use video conferencing facilities such as Big Blue Button, Zoom, Congea and WebEx which were plugged into the LMS to ensure each class session took at least 3 hours and could be relied upon in the event the LMS could not be accessed for any reason since they do not require organizational bandwidth or servers to run.

Access to library resources off campus was made possible through RemoteX to both learners and lecturers through their laptops, phones and other devices. Training on how to access these resources was provided through videos and power point presentations which students could access via their portals or institutional emails.

To support learners acquire mobile devices and access the internet, the university provided 10GB internet bundles to whitelisted educational sites including the Learning Management System and Library and offered 10% fees rebate to allow students purchase devices that can access internet for video conferencing access, WhatsApp, access the library remotely, download pre-recorded lectures and network with their classmates in discussion forums. The university partnered with Huawei and Cisco, IT giant companies to provide technologies.

Zetech university students are taken through training including how to access and use YouTube clips, how to log into the LMS, how to learn, collaborate and research over a technology link. Upon registration, online training modules are provided to them and regularly updated as needs arise. Big classes were divided into smaller groups

to ensure all learners participate effectively and with proper follow-up from lecturers.

Online teaching at Zetech university takes the following structure;

1. 1. Student log into the LMS to familiarize themselves, enroll for the unit, introduce self and access the course outline after meeting various pre-requisites such as course unit registration and obtaining an official e-mail address

2. Lecturer introduces the Course unit

3. On a weekly basis, the lecturer introduces the topic, posts pre-recorded lecture clips and other support materials such as powerpoint, URLs and library reading lists

4. Students download the material to read over the laptop/tablet/WhatsApp and access the library for additional reference

5. Lecturer/course administrators and IT support send out meeting invitation to learners ahead of the scheduled Live session and asks learners to confirm receipt

6. During the scheduled time, lecturer starts BigBlueButton/Zoom/Congea/Webex session and invites students to log in for a normal lecture with live participation

7. Lecturer and students engage in normal after class activities such as group discussions, extra reading, assignments and projects

8. Graded assignments and tests given as per the semester schedules

# Chapter 5: Policy Reform in University Education

With the advent of Covid-19, many Universities responded by offering their programmes online including those not accredited for virtual environments. This has brought to fore the quality question on the content delivered, the capacity of faculty, ICT infrastructure and media used for delivery of these programmes.

Commission for University Education has responded by reviewing ODEL standards in Universities Standards and Guidelines, 2014 and developed a new standard on Emergency Remote Teaching (ERT) to enable continuity of teaching and learning in the event of emergencies including calamities like COVID-19.

The Standard provides for the following;

i. Requirement for universities to have a policy on Emergency Remote Teaching;

ii. Requirement for universities to establish collaborative arrangements to enable them to share and access resources from each other; this may lead to establishment of regional centres where students can access educational materials and services including libraries and laboratories;

iii. Ensuring access and equity for all learners in the event of initiation of ERT so that some students are not disadvantaged;

iv. Use of appropriate remote solutions, technologies and media to meet learner needs;

v. Upholding quality teaching and learning;

vi. Examinations are conducted with integrity and are not compromised in any way;

vii. Ensuring conducive teaching and learning environments where student and faculty safety is prioritized especially when in collaborative arrangements;

viii. Facilitation of students to continue with their education by providing them with adequate information, negotiating for subsidized internet bundles, and access to educational material offline;

ix. Universities continually monitor and evaluate the effects of teaching and learning under Emergency Remote Teaching;

x. The standard requires that universities seek approval from CUE to offer Emergency Remote Teaching and CUE expects universities to engage them on the timelines under which the ERT will be implemented. ERT will be applicable for approved programmes only.

# Chapter 6: Innovations

By April 2020, a month after the first case of Covid-19 was reported in Kenya, a shortage of ventilators hit many hospitals with the pandemic rapid spread across the country. Sixteen students drawn from faculties of Engineering, Medicine Pharmacy and Nursing in Kenyatta University in Nairobi County responded to the national health challenge by applying the knowledge acquired in class and developed a prototype ventilator. They used locally available materials and within a week came up with the prototype working with mentors and using facilities at the Chandaria Business Incubation and Innovation Centre situated in the University. The prototype was certified by quality assurance organizations in Kenya including the Kenya Bureau of Standards and the Pharmacy Poisons Board. The students are working towards mass production of the ventilators to not only meet the local demand but needs from other countries within the continent.

South Eastern University of Kenya in Kitui County, through its School of Engineering has been making facemasks which they sell to staff and students at subsidised rates. The University is in the process of seeking KEBS certification. In May 2020, the university began manufacture of hand sanitizer championed at its school of Pure and Applied Sciences, the sanitizer has since been certified by KEBS.

As a way to prevent the spread of Covid 19 in Mombasa County, the Technical University of Mombasa working with the County Government, constructed a sanitizing spray booth where ferry users pass through and are sprayed with a disinfecting solution before being allowed to board the ferry at Likoni. The booth which could disinfect 12 people a minute uses solution which is friendly to the human skin and body, contains antibacterial, anti-fungal and virucidal elements that attack any germs and the Coronavirus should it be found on one's skin.

# Chapter 7: The Regulator's Role

Whenever universities want to mount new programmes they send them to the Commission for University Education for review and accreditation. CUE, as guided by its legal framework, brings together teams of experts from both its staff and those drawn from universities and industry to read and review the programmes. This process often takes place face-to-face as experts travel from different parts of the country to convene at a central place, read hard copies of the programmes and prepare their reports that inform the accreditation process. When Covid-19 happened this true and tested process was no longer tenable especially when the president directed closure of learning institutions including universities. Further following Ministry of Health protocols for mitigating against the spread of covid-19 including social distancing and limited public meetings, those accreditation processes were not tenable. To continue with its mandate and support university education the Commission took up the challenge posed by Covid-19 to find innovative ways to make sure that its quality assurance mechanisms are not adversely affected. CUE moved to quickly undertake some of its key processes virtually including holding peer review panels meetings virtually. This has allowed the Commission to not only keep its core work going but has been able to tap into the expertise of scholars from different parts of the country and the world. Even if a peer reviewer is locked out of Nairobi the virtual meetings are not curtailed. This work will be supporting work already in progress which will allow CUE to have most of its core processes online including programme and institutional accreditation.

The CUE also took another step to ensure that universities were ready to offer programmes online while adhering to quality. It brought a team of experts from universities to prepare benchmarks for virtual and e-learning processes. The benchmarks developed were as follows:

## 1. Background Information Of The University

Summarize the institutional background information as below:

a) Name, address and physical location of the institution;

b) Historical background of the institution, highlighting major milestones in the development; of ODeL including needs assessment, justification and stakeholder involvement; and

c) Vision, mission, objectives, and strategies of ODeL

## 2. Governance And Management

Summarize the governance and management of your institution along the following broad areas:

a) the integrated institutional framework in place (highlight the units, leadership and administrative structure, including ODeL centres if existing) in support of ODeL;

b) University ODeL Policy (highlight the key aspects included in the policy e.g. with regard to ODeL programmes curriculum development, copyright on course materials, intellectual property rights, providing for learners with different abilities, research by online students;

c) other university policies and guidelines available that support ODeL (outline how they support ODeL);

d) how ODeL is managed and monitored in the University; and

e) how the ODeL offerings are aligned to the university vision, mission and philosophy.

## 3. Finance, Marketing, & Student Recruitment

Demonstrate the University management's financial support for ODeL programmes by providing detailed information on the following:

a) budgetary allocation and expenditure for ODeL programmes and related infrastructure;

b) a computation of financial viability and sustainability projections specifically for ODeL, of at least 5 years;

c) short- and medium-term marketing plans available for ODeL programmes; and

d) projected student recruitment trend for the next 5 years.

## 4. ODeL Programmes

### 4.1 Curriculum Design And Development

a) Elaborate on the following:

i) the policies guiding curriculum design and development for ODeL programmes;

ii) how ODel course design teams are formed and managed;

iii) the roles of subject matter experts in course design and delivery teams;

iv) appropriateness and adequacy of the Technologies in place;

v) adequacy and relevance of instructional materials.

b) Briefly outline:

i) the curriculum design, development and review process for ODeL programmes;

ii) university's guidelines on meeting requisite instructional hours for OdeL programmes;

iii) outline the internal approval processes at the various levels of the University, for ODeL programmes including how this process is linked to the Commission's requirements.

c) Tabulate the programmes that the university is currently offering under ODeL mode.

d) Describe how the Intellectual Property Rights are safeguarded in instructional content design

e) How does the institution implement policies and guidelines to cater for learners with different abilities?

f) How does the University ensure that the packaging of course units promote inclusion and equity

g) Highlight how the University ensures course design in ODeL programmes:

h) enhances accessibility and learner-centered education; and

i) provides clear programme instructions with regard to course structure

| SN | PROGRAMME TITLE | APPROVAL DATE (for face to face mode) | PROPOSED ODeL MODE *(indicate whether blended or online)* |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| S/N | PROGRAMME TITLE | PRACTICAL REQUIRED | HOW PRACTICALS ARE PROVIDED FOR |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

### 4.2 Course Delivery

a) Give a highlight on:

i) the policies and guidelines the University has put in place for online course delivery;

ii) how the courses are organized in the LMS;

iii) the obligations of the lecturer and the learner in online teaching and learning; and

iv) how the University promotes innovativeness in online course delivery.

b) Indicate how the academic programmes being offered through ODeL accommodate the practical aspects of learning;

c) Provide evidence of facilitation for asynchronous learning;

d) Provide policies and guidelines for research by online students;

e) Briefly highlight:

i) how the University supports online students to undertake their research, including but not limited to provision of guidelines on how to conduct supervised research projects, assessment and online supervision of the research project, and software tools for supporting online supervision of projects;

ii) how learners are facilitated to explore additional instructional materials outside what is prescribed for online programmes;

iii) how the University ensures the instructional materials provided for the academic programme(s) are accessible to the students, current, adequate, and relevant to the programme learning outcomes;

iv) the collaborative learning activities that promote a sense of community among the learners and with the instructor;

v) how the University promotes inclusion and equity in ODeL programmes; and

vi) how the University utilizes partnerships and collaborations in courses delivery for ODeL programmes.

## 5. Technology Infrastructure and Media

a) What IT infrastructure does the institution have that will ensure delivery of quality ODeL programmes, including but not limited to infrastructure that facilitate:

i) access to the internet;

ii) faculty to learner interaction;

iii) learner to learner interaction;

iv) access to learning/information materials;

v) processing, storage and access to student information;

vi) student and faculty support; and

vii) security of all online education information/ transactions, including security of system for hosting, archiving, saving and exporting data.

b) Describe the technologies available at the institution that will be used to offer the ODeL programmes (where technologies will be availed through collaborative arrangements, evidence of such arrangements should be provided)

c) Provide a highlight of:

i) Software in place to detect academic dishonesty including deception, plagiarism, theft and fraud.

ii) the capacity of internet connection available to faculty and learners, indicating the average internet capacity per learner and how the institution ensures reliability of access to the internet;

iii) the systems that the institution has for online admission and registration of learners, highlighting how reliability of the systems is ensured;

iv) the web-based systems through which the institution communicates with the public and avails academic resources required by learners and faculty, including mechanisms in place for maintaining and supporting the systems.

v) the institution's policies and plans for business continuity and recovery from business interruptions, including how it ensures that they are reliable;

vi) the system in place for archiving past examination questions and results for ease of retrieval; and

vii) the mechanisms in place for integrating and sharing data and information that may be available in different systems in use at the institution including integration between the LMS and the student management information system.

d) Describe how the design, development, and integration of multimedia materials is organized and supported in the institution.

e) State the specific assistive facilities and adaptive technologies in place to support learners with special needs.

f) Outline the electronic library resources and access mechanisms in place to support teaching and learning in the institution. This should include but not limited to:

i) links to the e-library portal;

ii) evidence of subscription to electronic resources, indicate the links to the resources (databases) from your website;

iii) evidence of subscription to off-campus/ remote access software for the resources;

iv) evidence of a digital repository;

v) delivery mechanisms has the institution put in place for core texts that are not in digital format to its users;

vi) evidence of interlibrary loan arrangements; and vii) provision for persons with special needs.

g) Outline the features of your LMS with regard to:

i) Scalability;

ii) ease of use;

iii) availability of online technical support;

iv) ease for the lecturer to engage learners;

v) meeting the needs and capabilities of diverse users; and

vi) compliance with World Wide Web Consortium (W3C) standards.

h) Give a highlight on how the University's LMS supports the following:

i) the various operating systems, browsers and mobile platforms;

ii) privacy and data protection;

iii) social presence in terms of allowing learners connect and interact as a community of learners.

iv) teaching presence in terms of facilitating instructors in the design and facilitation of learning experiences, direct instruction and monitoring performance of learners;

v) cognitive presence in terms of engaging learners in higher order thinking to construct and confirm meaning, receive feedback and monitor progress; and

vi) student research and supervision in terms of monitoring, feedback and provision of progress reports.

## 6. Physical Infrastructure

a) Summarize the available physical facilities dedicated to ODeL, including but not limited to:

i) instructional systems design studios;

ii) multimedia production facilities;

iii) data centres/server rooms;

iv) offices;

v) lecture rooms;

vi) laboratories;

vii) workshops;

viii) library; and

ix) assistive facilities to support learners with special needs.

b) Summarize the available equipment dedicated to ODeL, including but not limited to:

i) servers;

ii) computers;

iii) projectors;

iv) cameras;

v) smart and interactive boards;

vi) scanners;

vii) printers; and

viii) special equipment.

c) Document the existing ODeL centres the University has (where applicable), outlining their

i) Location;

ii) Accreditation status;

iii) Academic resources available, including Technology infrastructure and media, Physical infrastructure, and personnel; and

iv) Services offered.

NB: where facilities or equipment will be availed through collaborative arrangements, evidence of such arrangements should be provided

## 7. Human Resources

### 7.1 Human Resource Policies And Procedures On Odel

a) Highlight the human resource policies and procedures related to ODeL, describing how they provide for:

i) recruitment and/or deployment of staff dedicated to ODeL;

ii) faculty development on:

1. instructional systems design;
2. ODel course design;
3. course delivery; and
4. preparation of learning materials.

iii) orientation of staff on ODeL.

### 7.2 Staff Establishment and Recruitment

a) Tabulate the following staff dedicated to ODeL highlighting their rank, qualifications and where obtained, specialization and years of experience in a university environment:

i) Academic staff;
ii) Instructional system designers;

iii) Multimedia specialists;

iv) IT staff;

v) Library staff; and

vi) Other support staff.

### 7.3 Staff Training/Orientation

a) Give an overview of:

i) aculty capacity building on:

a. instructional systems design;

b. ODel course design;

c. course delivery;

d. access to e-resources; and

e. preparation of learning materials.

ii) continual upgrading of faculty on skills and methods/pedagogy in ODel; and iii) orientation of faculty after technology changes.

b) Provide an overview of how the University conducts orientation and capacity building for support staff in ODeL.

## 8. Faculty and Staff Support

a) Outline the mechanisms and resources the University has in place for faculty and staff support for ODeL.

b) Give an overview of how staff involved in ODel are supported to:

i) access appropriate, adequate and timely IT support;

ii) execute ODel programmes with specific emphasis on financial, administrative and any other form of support;

iii) access e-library services;

iv) design, develop, and integrate multimedia materials and;

v) navigate through the LMS and generate relevant reports.

## 9. Student Support

a) Highlight the University policies aligned to student support for ODeL, including support for students with special needs; support to acquire online learning devices and affordable off-campus broadband internet;

b) Explain how new students are provided with orientation into ODeL indicating the:

i) key aspects of the orientation programme;

ii) ODeL orientation package provided, including student handbook;

iii) Introduction to the tools for teaching and learning;

iv) Programme requirements, including cost and registration procedures; and v) v) key expectations of ODeL students during orientation.

c) Outline how students with special needs are supported in ODeL, including integrating relevant tools into the LMS;

d) Describe the available administrative unit where students can access support services;

e) Highlight the mechanisms in place for:

i) advising and counselling ODeL students;

ii) support on use of IT for ODeL students;

iii) continuous training of students;

iv) A variety of student's learning experiences

v) student appeals and grievance resolution; and

vi) communication.

## 10. Assessments

a) Outline the University policy on student assessment, highlighting:

i) its implementation for ODeL;

ii) formative and summative assessments in ODeL programmes, including their weighting;

iii) criteria for the evaluation of student work and participation;

iv) grading and providing feedback on assessment; and

v) how the assessment policy is articulated to the students.

b) Highlight how the University ensures integrity of assessments by utilizing technologies to authenticate students and students' work.

c) Describe the mechanisms in place to ensure reliability of assessment tools;

d) Give a highlight on how:

i) assessments are conducted;

ii) student assessment reports are generated, analyzed, and archived;

iii) feedback on assessment is communicated to the students; and

iv) feedback on assessment is integrated to review of the curriculum

## 11. Examinations

a) Describe how examinations are administered for ODeL programmes;

b) Outline the tools methods in use for student authentication during examinations.

c) Outline how the University ensures students adhere to examination protocols, including invigilation and checking academic dishonesty;

d) Highlight the security mechanisms in place for ODeL examinations during setting;

e) handling, packaging, execution, and marking; and

f) Highlight the documented procedures for quality assurance of ODeL examinations.

## 12. Community Outreach and Integration

Give a highlight on:

a) the University policy on community outreach and integration;

b) administrative structure for co-ordinating, supervising, and evaluating the University's community outreach and integration programmes;

c) strategy for community outreach and integration specific to ODeL, including communication strategy to relevant stakeholders;

d) management of feedback on community outreach and integration, including feedback on its impact on staff, students, and the community; and

e) resources the University has provided for community outreach and integration.

## 13. Quality Assurance

a) Outline the policies, strategies, and instruments in place for Quality Assurance of ODeL;

b) Highlight how the Quality Assurance for ODeL has been institutionalized in the University, including ODeL organisational structure, budgetary allocation, staffing, roles, and responsibilities;

c) Outline the mechanisms in place for monitoring, evaluating, and reporting the quality of ODeL offering;

d) Specify how the internal and external stakeholders are identified, engaged, and their feedback incorporated in the development, implementation, and improvement of ODeL;

e) Outline how the University utilizes benchmarking to promote the quality of ODeL; and

f) Highlight how teaching and learning is monitored and how faculty and student performance reports are utilized for improvement of ODeL.

## 14. Recommendations to Mitigate Disruption of Learning

Like many institutions of learning across the world affected by the pandemic, universities in Kenya continue to draw insights from the disruption and respond to changing education landscape. Some of these ways include;

- Course design that centres on students learning outcomes
- Supporting students to access devices and mitigate their connectivity to online learning hurdles through implementation of a Student Laptop Ownership program to ensure availability of laptops to all students as a priority and negotiating with telecommunication companies to enable more affordable mobile access and internet connectivity to university students
- Faculty reskilling and retooling on appropriate technology for delivery of online education
- Continued policy reforms
- Research for appropriate technologies to ensure uninterrupted teaching and learning in a post covid World
- Students perspective on online teaching and learning. It is important to listen to the students on use of e-learning platforms used by universities and how this has influenced their understanding and assimilation of information; provide forums for them to highlight the challenges they experience which will be important for universities to adopt appropriate technologies and systems towards an effective e-learning system

# Chapter 8: Conclusion

The COVID-19 pandemic hastened the need to integrate technology in learning and the development of policy guidelines to assure the delivery of quality education and blended learning in universities. The momentum that has been generated this far should not be lost but rather an opportunity for institutions to strengthen their systems so that learning can run seamlessly even in times of disruptions. Further, Covid-19 has been a wake call to universities to anticipate the education of the future. Some new advantages have emerged in the midst of the challenges of Covid-19. Many universities have noticed the critical role played by faculty in ensuring teaching and other businesses of a university continue to be provided. The use of physical infrastructure has come to a reflection because of the ability to reduce physical space and contact in favour of virtual learning. More collaboration across national and international boundaries has also emerged, giving universities the opportunity to tap into expertise located elsewhere.

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# **MADAGASCAR :** Étude de cas sur l'impact de COVID-19 sur l'enseignement supérieur Et l'avenir de l'apprentissage

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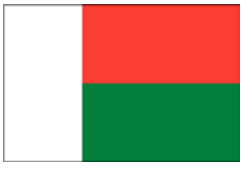
**MADAGASCAR**



Tout d'abord, les établissements d'enseignement supérieur sont très variés à Madagascar : les écoles supérieures de formation professionnelle et techniques, les Instituts Supérieurs de Technologie, les universités publiques, les universités privées, les établissements de formation à distance et les centres nationaux de recherches et les écoles doctorales. Cette variété répond à la demande de savoir et de savoir-faire diversifiés. Les études universitaires marquent la fin de la formation initiale avant l'entrée sur le marché du travail. Ces études représentent donc un investissement différé.

Avant la pandémie du Covid-19, plusieurs reformes et stratégies ont été déployées par les Ministères de Tutelle, les professionnels ainsi que les universités. Ces réformes ont pour but d'améliorer l'employabilité des étudiants ainsi que de faciliter leur première insertion professionnelle. Pour ce faire, l'offre de formation a été reformulée par rapport aux besoins de la société. En effet, plusieurs peuvent être les enjeux que l'enseignement supérieur représente pour le développement. Aussi, les rôles stratégiques possibles de l'enseignement supérieur sont envisagés à l'échelle nationale et mondiale.

Si on suppose que les Pays en voie de développement veulent être maîtres de leur éducation, et que l'enseignement supérieur est un moteur de changement et de développement, qu'en est –il de la situation actuelle face au problème du COVID 19 ? Au pire, l'enseignement supérieur ne serait-il plus maîtrisé et évolue au gré des dispositions sanitaires à respecter ?

D'une manière générale, il est largement admis que l'accès à l'éducation est une mesure importante dans la lutte contre la pauvreté (Mkandawire et Rodriguez, 2000). Une étude a abouti à la conclusion que les investissements dans l'éducation et la formation post-scolaire augmentent la productivité des personnes (Nicaise, 1996). Dans le cas de l'enseignement supérieur en particulier, cet investissement varie considérablement selon le revenu et l'origine socio-économique. En se référant aux notes de concept, les rapports de la banque mondiale mettent en évidence le rôle de l'enseignement supérieur dans la production non seulement d'une main d'œuvre hautement qualifiée qui dessert tous les segments de la société, mais qui contribue également à réduire la pauvreté et à fournir l'espace et l'environnement pour l'innovation.

Ce rapport va présenter de manière suscinte les impacts de la Pandémie sur les établissements de l'enseignement supérieur, les visions des enseignants et des étudiants face à la situation, aux mesures prises par le gouvernement ainsi que le ministère de tutelle et enfin les reformes et défis envisagées.

# Chapitre 1: Situation Generale De L'enseignement Superieur

Actuellement, les instituts privés ayant habilitation sont dans 120 établissements, les paramédicaux 101 sont habilités, 26 instituts et universités publiques, 30 écoles doctorales publiques et 3 écoles doctorales privées. Au cours de l'année universitaire 2019/2020, la pandémie a bouleversé complètement le monde de l'enseignement supérieur : sa gouvernance et son fonctionnement. Les activités comme les présentiels, les stages, les examens, les encadrements ont été suspendus. Le personnel administratif et technique a opté pour un service minimum. Aussi, le calendrier universitaire a complètement été remis en question et réorganisé par rapport à l'état d'urgence sanitaire déclaré par le gouvernement. La pandémie a eu également un impact direct sur la manière dont les recherches ont été menées. Le personnel d'encadrement devait prendre toute une série de décisions et de solutions pour minimiser les risques de contact tout en essayant de continuer les activités d'encadrement mais à distance.

Par ailleurs, l'enseignement supérieur devrait accueillir chaque année de nouveaux bacheliers. Les statistiques sont révélatrices car de 2015 à 2020, le nombre de bacheliers varie entre 55000 à 80000 étudiants. A noter que, les nouveaux bacheliers de l'année 2020, n'ont pas passé les concours d'entrées auprès des universités publiques que durant le mois de janvier et février 2021 (pour l'année universitaire 2021). Ces futurs universitaires n'ont pas encore entamé leur année académique vue le chamboulement par arrêt momentané des activités.

La préoccupation principale des universités publiques est ainsi de finir les activités universitaires pour la promotion 2019/2020. Il est à noter que les examens du prochain baccalauréat vont se dérouler au mois d'août 2021. Il y aura donc deux promotions bacheliers qui vont essayer de rentrer à l'université pour cette année. Ainsi, l'enseignement supérieur et tous les corps enseignants, le Personnel Administratif et Technique vont devoir opter pour une politique de flexibilité dans beaucoup de domaines d'activités.

Autre situation à tenir compte sur les universités publiques est la fermeture de certaines régions avec des dispositions prises par rapport à l'état d'urgence sanitaire : région Atsinanana, région Boeny et région Analamanga. La région Vakinakaratra ainsi que Nosy be ont été aussi fermée momentanément. Le fonctionnement pédagogique et le respect des calendriers universitaires deviennent différents d'une université à une autre. La différence se fait constater au niveau de l'année académique auprès de ces universités publiques. Pour remédier à la situation et terminer l'année universitaire, le calendrier est révisé et réduit. Un plan de rattrapage du retard universitaire est prévu.

Mais la situation est autrement auprès des universités privées. Ces dernières ont prévu de nouvelles rentrées par vague et par semestre. Elles sont alors confrontées à des situations différentes dues aux problèmes sociaux : des problèmes de recouvrement compte tenu des problèmes financiers des parents, des étudiants qui abandonnent en cours d'année universitaire et donc se désengagent des frais de scolarité. Ces universités privées sont quant à elles plus flexibles au niveau de la structure et de ce fait au niveau de son fonctionnement. Dès que le problème du COVID 19 s'est manifesté, elles ont opté pour la mise en place d'une plateforme de cours en ligne. Chaque étudiant se voit procurer des cours sur moodle et reçoit des tutoriels explicatifs. Certains instituts proposent aux étudiants de récupérer des polycopies auprès des établissements ; D'autres les envoient via mail ou à travers un groupe privé sur les réseaux sociaux. Les discussions et explications

se font par messages en groupes privés avec les enseignants. On peut donc en conclure que les universités et instituts privés ont pu adapter leur fonctionnement sur le plan académique par rapport au contexte d'état d'urgence sanitaire.

Il s'avère que Madagascar se trouve confronté à cette pandémie depuis 2020. Les expériences vécues en cette période ont permis aux responsables de l'enseignement supérieur de se préparer à l'avance pour l'année 2021.

# **Chapitre 2:** Methodologie Et Collecte des Donnees

En raison du temps très limité associé à la zone de couverture assez large, un échantillon de base de taille très réduite a été choisi. Nous avons interviewés :

- 96 responsables de mention et parcours ;
- 54 enseignants chercheurs permanents et vacataires issus des universités publiques et privées ;
- 22 Personnel Administratif et Technique ;
- 13 présidents des associations d'étudiants issus des différents établissements des enseignements supérieurs publics et privés à Madagascar ;
- Et enfin 140 étudiants issus des universités publiques et privés.

Les objectifs des interviews étaient de recueillir leurs opinions et leur vision de l'impact du covid-19 sur l'enseignement supérieur. Le choix des personnes a été effectué au hasard en essayant d'équilibrer la question genre. Nous avons également considéré le PV des réunions, des documents des établissements par rapport au contexte.

Par ailleurs, nous avons exploité et mis à jour les données sur le Colloque international organisé en 2016 ayant pour thème « Employabilité, Développement et Engagement » et les études en 2018 sur l'employabilité des étudiants, les visions des étudiants sur les TPE dans le cadre du projet « Pilote d'Atteinte au Résultat 1 » de l'ARES –CCD et l'Université d'Antananarivo. Les interviews avaient pour but de reformuler les offres de formation par rapport aux besoins de la société et des partenaires (professionnels).

# Chapitre 3: Les Dispositions Prises par L'enseignement Superieur Relatives Aux Infrastructures Universitaires

Afin de mieux protéger au mieux l'ensemble de la population et de tenir compte de l'évolution de l'épidémie du COVID-19, le gouvernement malgache a annoncé le confinement total cette année à partir du 05 avril 2021. Une série de mesures a été annoncé comprenant la fermeture au public de l'ensemble des établissements de l'enseignement supérieur à compter de cette date et jusqu'à nouvel ordre. La mise en œuvre de ces mesures a pour finalités de:

(i) garantir la sécurité des étudiants, le personnel administratif et technique, les enseignants en limitant les cas contacts ;

(ii) continuer les activités dans le champ de la formation et de la recherche.

Avant de proposer les mesures mises en œuvre, il est important de savoir que 55,2% des formations sont à vocation académique, 26% à vocation professionnelle et 18,8% à vocation indifférenciée. Les responsables de l'élaboration de ces offres de formations sont : équipe de formation à 47,2%, le collège des enseignants à 19,8% et le reste est complété par les professionnels1. Ces derniers ont été consultés pour : la connaissance du marché de l'emploi (besoins), les compétences spécifiques, les besoins en termes de formation pour le personnel de l'entreprise et surtout la mise en place d'une formation professionnalisante.

Les mesures prises sont les suivantes :

## 3.1 Fermeture des activités de formation en présentiel et continuité pédagogique à distance

Afin de garantir la continuité pédagogique, certains établissements ont veillé à offrir leur module d'enseignements en e-learning (sur moodle ou autre plateforme) pour permettre aux usagers de suivre leur formation à distance. En effet, ce sont les établissements ayant une structure simple avec un nombre gérable d'étudiants qui ont pu réaliser cette option. En cette année 2021, ils envisagent de terminer l'année universitaire au plus tard vers le mois d'août 2021 et planifier une nouvelle rentrée au mois de septembre. Pour les universités publiques avec une structure assez complexe et un nombre considérable d'étudiants à gérer, cette option nécessite une énorme réforme en termes de moyens et de faisabilité. Ce qui n'est pas évident avec une subvention de seulement entre 4% à 10% chaque année par rapport aux besoins exprimés. Une fois que le confinement partiel a été proclamé, les activités ont repris petit à petit en respectant la distanciation d'1m minimum et planifier des séances de regroupement avec 50 personnes maximum dans une salle. Pour certains départements et niveaux, cette reprise s'avère difficile car en 1ere année par exemple, on doit dispenser en moyenne 1200 étudiants auprès de la mention Gestion.

## 3.2 Gérer les résidences universitaires en contexte pandémie

Les responsables des internats et cités universitaires ont suggéré aux jeunes de regagner le domicile de leur famille. Néanmoins, ils ont demeuré ouverts pour ceux qui ne sont pas en mesure de le faire. Les responsables ont essayé d'anticiper tous les scénarios possibles et s'en ajuster si la situation s'évolue. En collaboration avec le gouvernement et le ministère de la santé publique, des aides ont été octroyé aux étudiants qui n'ont pas pu rentrer et qui ont eu des difficultés financières.

## 3.3 Sensibilisation à la vaccination

Les équipes du gouvernement et du ministère de la santé publique ont mis en œuvre durant les mois d'avril, mai et juin une campagne vaccination. Les universités ont participé à cette campagne le mois de juin 2021. Plusieurs étudiants ont réagi positivement à cette sensibilisation.

## 3.4 Le régime télétravail et service minimum

Le télétravail était obligatoire pour les fonctions qui le permettent. Le personnel technique fait des rotations pour assurer un service minimum sur les tâches administratives.

# Chapitre 4: Vision Des Enseignants

Jusqu'à aujourd'hui, 53 enseignants chercheurs et chercheurs enseignants ont succombé au Covid 19 ; la plupart était des cas vulnérables.

Après entretiens, les visions des enseignants sur la situation universitaire sont les suivants :

## 4.1 Les risques au niveau des présentiels

Les enseignants se plaignent à l'idée d'opter pour les présentiels. En effet, les risques de contamination par cas suspects sont élevés. Ces risques sont d'autant plus élevés pour ceux qui enseignent la 1ere année dont les effectifs sont assez élevés. Exemple : 1200 étudiants dans une cathédrale pour les étudiants en Droit, Economie, Gestion et Sociologie, 1000 étudiants en 2è année, etc....

## 4.2 Les difficultés en matière de conception des cours

Sceptique à l'idée de concevoir des cours en ligne ou à distance, certains enseignants surtout la plupart des enseignants en sciences fondamentales trouvent que les rouages des cours et les compétences qui s'y rapportent ne peuvent pas s'apprendre réellement à distance. Bien que déstabilisante, la conception des cours s'avère aussi difficile puisqu'ils doivent être très variés.

## 4.3 Le rôle important des acteurs pédagogiques :

89,6% des responsables de mentions et parcours affirment que le département dispose d'un programme qui met en relation les étudiants et le monde professionnel. Les raisons de ce programme sont : Recherche de stage 84,4%, Tutorat pour un projet professionnel 26,0%, Accompagnement/encadrement aux examens 20,8%, Veille d'offres d'emploi/placement 12,5%, Voyage d'études 4,1%, Conférences données par des professionnels 1,0%. A travers ces chiffres, on peut en déduire les activités qui ont été annulées au sein de l'université lors de la Pandémie. L'insertion d'une formation entrepreneuriale est réalisée respectivement soit : par la conception des éléments constitutifs (34,4%), des unités d'enseignement (32,3%), ou la création d'un parcours d'études (11,5%).

## 4.4 La valorisation des heures supplémentaires attribuées aux cours en ligne (les problèmes de déclaration des vacations)

Suite au volume de travail engagé par le cours en ligne ou la formation à distance, les enseignants revendiquent la revalorisation des heures complémentaires et leur paiement sans retard. En effet, l'enseignement à distance exige plus d'engagement actif vis-à-vis de l'étudiant et l'accompagner dans son cheminement. Pour concevoir des cours, les enseignants peuvent compter sur divers pratiques :

- La conception du cours et proposition des ressources méthodologiques : guides, glossaires, indications, ...
- La proposition des activités d'apprentissage variées : proposer des études de cas, des problèmes à résoudre, concevoir et réaliser des projets, jeux de rôles, proposer des thèmes de recherche, répondre aux questions ;
- Fournir des rétroactions sur les travaux, les rapports remis par les étudiants, répondre aux questions, participer aux foires de

discussions, Mais comment évaluer ces heures attribuées ? Un cours est dispensé suivant un volume horaire préétabli, entre 20h à 50h de présentiels. Puisqu'il s'agit d'un accompagnement et de suivi des étudiants cas par cas, ce volume horaire pourrait être largement dépassé. Ainsi, les enseignants revendiquent la valorisation des coûts cachés et les heures supplémentaires induits par le cours en ligne.

## 4.5 Technologie compliquée pour les enseignants:

Les remarques les plus fréquentes des enseignants sur la technologie sont :

i. les problèmes de manipulation de l'ordinateur et des logiciels compliqués,

ii. les problèmes de connexion,

iii. le problème de maîtrise de la plateforme,

iv. le passage au mode tutorat, la maîtrise des logiciels, ...

v. le surplus de temps alloué à chaque activité

vi. les problèmes de vues et de maux de têtes causés par les ordinateurs

Certes, les Technologies de l'information et de la Communication (TIC) peuvent favoriser l'apprentissage dans le cadre du nouveau paradigme pédagogique constructiviste, mais il est aussi primordial de motiver les enseignants à s'en familiariser.

## 4.6 La qualité de l'enseignement :

Le premier problème de l'enseignement à distance, suite à la pandémie est la qualité de l'enseignement dispensé. A cela s'ajoute au délai d'assimilation restreint octroyé aux étudiants. Une grande partie de la qualité de l'enseignement dépend de l'administration et de l'enseignant. En effet, l'efficacité de l'enseignement à distance repose sur la préparation, la compréhension par l'enseignant des besoins des étudiants et une compréhension de la cible. Cette situation requière la connaissance du profil de chaque étudiant ; ce qui rend difficile et fastidieuse le travail de l'enseignant. L'enseignement à distance est alors difficile à réaliser compte tenu du nombre élevé des étudiants par niveau.

## 4.7 les coûts engagés :

L'enseignement à distance engage des coûts cachés : dépenses pour l'achat et/ou l'installation d'un ordinateur et l'obtention d'une connexion internet fiable. L'enseignant se doit aussi de doter des ressources supplémentaires telles qu'imprimante, caméra web pour les tutorats, les ancres, et autres frais. Certaines dépenses peuvent être récurrentes comme les frais d'entretien et d'électricité.

## 4.8 Qualité du corps professoral compromise

Autre impact indirect de l'enseignement à distance, suite à la pandémie est la qualité du corps professoral compromise. L'enseignant peut ne pas être à l'aise avec l'enseignement dans un environnement en ligne. Parfois, la technologie peut ne pas rendre pleinement justice à la prestation et à la conception du cours. Ainsi, si l'enseignement perd en qualité, l'étudiant aura un moins bon apprentissage. Les prestataires d'enseignement à distance doivent se rendre compte que ce n'est pas la technologie, mais des enseignants bons et efficaces qui enseignent aux étudiants.

# Chapitre 5: Impact Du Covid 19 Sur Les Etudiants Et La Perception De L'enseignement A Distance En Situation De Confinement

Cette étude propose une analyse des vécus des étudiants face à l'enseignement à distance imposé en période de confinement et durant les périodes d'état d'urgence sanitaires. Depuis le 02 juin 2021, les universités peuvent à nouveau accueillir des étudiants sans dépasser les 100 personnes dans une salle. Après plus de deux mois de « distanciel », le Ministère de l'Enseignement Supérieur et de la Recherche Scientifique a prévu une reprise progressive des enseignements présentiels. Néanmoins, la transposition numérique de l'enseignement classique reste un moyen imposé par les circonstances sanitaires. En effet, cette étude a pour vocation d'étudier les perceptions des étudiants de cette forme d'études imposée. Après avoir exploré leur ressenti en termes d'avantages et inconvénients, nous analysons les outils qui leur sont proposés en cours, en travaux dirigés et en travaux pratiques. Mentionnons que la perte de motivation et les problèmes de concentration touchent les deux tiers des étudiant(e)s. A cela s'ajoute les soucis pour la préparation des examens. Seulement un tiers trouvent des aspects positifs à l'expérience au niveau du gain de temps, moins de coûts de transport, flexibilité de l'apprenant et possibilité de travailler à son rythme. L'étude a été menée au mois de mai et juin 2021, au moment de la reprise progressive des cours présentiels après le second confinement alors que les cours magistraux et les travaux dirigés ont été entièrement dispensés à distance pour certains enseignements supérieurs 'autres ont été vraiment suspendus. Cette étude s'est donné comme objectif de mesurer, à chaud, la perception qu'ont les étudiants de cet enseignement à distance qui leur est dispensé.

## 1. Les difficultés au niveau de l'assimilation des acquis

Les résultats de l'étude montrent une certaine discordance ou déphasage pour la synchronisation ou l'harmonisation, voire même la projection des acquis théoriques dans le monde professionnel. En effet, l'année universitaire a été réaménagé, voire même réduite à 4 ou 5mois, surtout au niveau de provinces fermées due à l'état d'urgence sanitaire. Les étudiants se trouvent dans l'angoisse en ce qui concerne les présentiels et l'assimilation des acquis. Ils vont devoir s'adapter aux polycopies et/ou aux cours en ligne. Le volume horaire « présentiel » de chaque matière a été également réaménagé ou réduit. Les étudiants vont donc faire face à une diminution des heures de regroupement et doivent assimiler les acquis à travers des travaux personnels (TPE).

## 2. Les difficultés au niveau des stages et les terrains d'application

Les stages et la réalisation des terrains d'application constituent une activité complémentaire et primordiale à la formation. Les stages en entreprise restent une activité plus prisée par 60% des étudiants. Elles sont vues a priori comme un lieu de développement des compétences personnelles et a posteriori une source de revenu. Cette activité s'avère pourtant impossible à cause de la pandémie. La plupart des entreprises ont refusé des stagiaires vus que certaines d'entre elles ont même opté pour la restriction ou le réaménagement de son personnel.

## 3. Le COVID 19 comme obstacle à l'insertion professionnelle des universitaires

Parmi les freins ou difficultés constatés à l'insertion professionnelle concernent les remarques les plus répétitives faites par les entreprises : le manque d'expérience (38,8%) et les contraintes d'ordres professionnelles (comportement, profils du poste, 8,7%). La pandémie a amplifié ces taux car il y a eu moins d'expériences et de stage d'imprégnation dans le monde professionnel. Les professionnels ont moins participé aux activités d'encadrement durant les deux années universitaires : 2019-2020 et 2020-2021.

## 4. Les activités de laboratoires freinées ou ralentis

Le monde de la recherche a également subi le problème de la pandémie. Avec la fermeture des universités et des centres de recherche, tous travaux ont freiné ou ralentis. Les encadrements ont été interrompu par peur des cas contacts et/ou des problèmes de déplacement. En effet, lors de l'application des mesures sanitaires, prendre un transport en commun devient risqué. . Pour les niveaux d'études nécessitant des stages et des études de cas en entreprise, les étudiants ont du mal à réaliser leur mémoire. Aussi, les fruits des mémoires de recherche précédents restent archivés auprès des bibliothèques universitaires sans suite de propositions de réalisation ni de partenariat à titre d'appui auprès des professionnels.

## 5. Les difficultés financières : loyer, vivres, les frais,

L'un des problèmes les plus difficiles auquel est confronté l'étudiant est **le problème financier.** Ces problèmes se font doublement ressentis pour ceux qui viennent d'autres provinces et du monde rural. Anxieux pour leur santé, isolés dans des logements exigus ou obligés de retourner chez leurs parents, livrés à eux-mêmes en raison des contraintes sanitaires, déprimés, ces jeunes sont confrontés à des difficultés financières. Les questions les plus fréquentes qu'ils se posent sont :

- Comment peut-on rentrer et rejoindre la famille pour moins de dépenses ?
- Comment va-t-on prévoir les surplus de dépenses pendant la période de confinement sans activités, ni familles : les nourritures, les frais de connexion, les loyers, ...
- Quelle activité temporaire pourrait-on faire pour subvenir aux besoins

Privés de leurs jobs avec la crise économique, les étudiants des cités universitaires sont venus grossir les rangs des bénéficiaires des aides aux plus démunis. Les aides ponctuelles qui ont été versées à un certain nombre d'étudiants par le gouvernement n'étaient pas suffisantes face à l'ampleur de la crise et vraisemblablement sa durée. Certains d'entre eux arrivent à obtenir des petits boulots temporaires de commerciaux, de chauffeur de taxi, de guides, ...Mais ce n'est pas le cas pour tout le monde.

## 6. Les problèmes d'internet pour ceux qui habitent en dehors des villes

Obligés de suivre les cours en ligne, les apprenants se heurtent à des difficultés techniques : internet, moyens informatiques, problèmes de réseau, ... Environ 4 étudiant(e)s sur 6 ne disposent pas de connexion internet suffisante et presque la majorité des étudiants interviewés ne dispose pas d'un ordinateur personnel ou a un problème d'ordinateur pour se connecter à la plateforme ou se procurer des cours envoyés par mail. Ces difficultés techniques induisent des coûts cachés (frais de connexion, impression, ...) ... Travailler dans un cybercafé s'avère un comportement normal et pratique en confrontant la lenteur de la connexion ou le problème de disponibilité des postes.

## 7. La motivation à s'adapter aux cours en ligne (problèmes d'apprentissage)

Les bénéfices des cours en ligne sont incomparables : réduction des coûts, gestion de temps, grande flexibilité pour l'apprenant et la disponibilité des cours contrairement aux cours magistraux. Cependant, la formation en ligne est considérée comme « ennuyeuse ». Le manque de motivation et d'engagement ainsi que la difficulté à s'organiser se font ressentir. Par faute d'animation, de dynamisme et d'interactions, les apprenants ne voient tout simplement pas l'intérêt de suivre la formation en ligne et minimise les efforts d'intégration. « Les cours en ligne ne sont pas toujours évidents », affirment les étudiants interviewés auprès des instituts d'enseignement supérieur privés.

## 8. Les problèmes psychologiques et de décrochage

Plus la reprise se tarde, plus les « dégâts » risquent d'être importants sur la psychologie et le moral des étudiants. Certains se plaignent de l'isolement de l'apprentissage à travers les cours en ligne et affirment que c'est très dur de se concentrer devant son écran et d'assimiler les cours. D'autres disent qu'ils ne sortent même pas du lit pour apprendre et se rendorment facilement devant les cours. L'isolement amène à une détresse psychologique, une déprime qui peut se terminer par l'abandon des études.

D'autres parviennent quand même à voir des avantages des cours en ligne : « Les enseignants posent des vidéos en ligne, ce qui donne le temps aux étudiants de voir plusieurs fois les leçons ».

Les étudiants qui avaient le Covid ou qui étaient Cas Contacts viennent aux présentiels et aux examens de peur de se retrouver avec un Zéro ou de se retrouver au rattrapage.

Mais la précarité est aussi une source de stress supplémentaire : les problèmes financiers perturbent la concentration sur les études.

## 9. Distractions élevées :

Faute de faculté d'interaction en face-à-face avec l'enseignant, les chances de se laisser distraire et de perdre le respect des délais sont élevées.

En résumé, la perte de motivation et les difficultés de concentration touchent une très grande majorité d'étudiants et d'étudiantes.

# Chapitre 6: Les Defis A Relever

- **Le défi de l'autonomie de l'étudiant.** Etre un étudiant autonome exige beaucoup d'efforts et de motivation de leur part. Effectivement, suivre un cours partiellement ou entièrement à distance exige beaucoup d'autonomie de la part des étudiants. Il importe donc de bien cerner leurs profils d'apprenants sur le plan cognitif et sur le plan socioaffectif. Il est aussi important d'anticiper leurs éventuelles difficultés et de mettre à leur disposition des ressources visant à les rendre plus autonomes et persévérants.

- **Le défi d'une pédagogie explicite.** Le scénario pédagogique doit être explicite : une pédagogie favorisant les interactions et l'implication des étudiants, une pédagogie structurée et progressive, allant du simple au complexe pour viser la compréhension, une pédagogie qui prône la répétition pour viser la mémorisation à long terme et enfin une pédagogie qui valorise les efforts et les stratégies pour réussir.

- **Le défi d'une conception collaborative.** La conception d'un tel cours nécessite la mobilisation d'une diversité de compétences. Même s'il demeure l'unique responsable de son cours, le professeur gagne à profiter de l'expertise et de l'expérience d'autres acteurs (tuteurs, professionnels pédagogiques, programmeurs, infographes, spécialistes du multimédia, etc.).

- **Le défi de la médiatisation du cours.** Les options qui s'offrent aujourd'hui au professeur quant au format médiatique à donner au cours et aux activités pouvant être réalisées à distance sont multiples. Il faut donc faire un choix éclairé en matière de médiatisation, motivé avant tout par des préoccupations d'ordre pédagogique.

- **Proposer des activités d'apprentissage variées se rapprochant de situations authentiques :** Les difficultés au niveau de la formation à distance concernent la proposition des activités variées et la présentation des cas authentiques. Les enseignants sont invités à proposer aux étudiants : la résolution de problèmes, la réalisation de projets, les études de cas, les jeux de rôles, des exercices variés et de complexité progressive, consultation des clips vidéo ou des entrevues avec des experts, des questions de recherche, ...

- **Proposer des activités favorisant l'interaction entre les étudiants et le travail collaboratif** : Les étudiants sont invités à s'intégrer dans des espaces de discussion, des discussions sur forum, élaborer une carte de connaissance entre groupe, faire des partages d'expériences, présentation des productions de la recherche, ...

- **Le défi de l'accompagnement de l'étudiant dans son acheminement** : Il s'agit d'offrir un accompagnement de groupe et un accompagnement individuel en cas de problèmes particuliers : forum de discussion, foire aux questions, ..., fournir des rétroactions sur les travaux, les contributions des étudiants ; fournir des ressources méthodologiques pour réaliser les activités, répondre le plus rapidement possible aux questions des étudiants, animer les espaces de discussion.

- **Le défi du plagiat :** Comme les documents de recherche sont obtenus à travers la bibliographie et le webographie, l'un des défis majeurs est de pousser les étudiants à ne pas opter pour des plagiats.

- **Il peut s'agir :** de copier les recherches effectuées par d'autres étudiants sur internet ou à travers les entretiens et les enquêtes, faire des plagiats des extraits ou des idées de quelqu'un d'autres dans le travail sans identifier clairement la source originale, soumettre un travail réalisé en tout ou en partie par une autre personne.

# Chapitre 7: Recommandations

## 7.1 Mise en place d'un dispositif et normalisation de la formation hybride

Nous empruntons la définition de la formation Hybride de celle de l'Université Laval: « Système de formation qui comprend, en proportion variable, des activités de formation offertes en présence physique des étudiants et de l'enseignant ainsi que des activités de formation à distance, synchrones ou asynchrones » (Politique de la Formation à distance, article 2.5).

Un cours hybride tend à s'éloigner d'un modèle traditionnel où les étudiants sont rassemblés chaque semaine dans une même salle de cours pour une période de 3 heures pendant toute la durée d'une session. Un cours hybride vise plutôt à offrir, aux étudiants et aux enseignants, une plus grande flexibilité en ce qui a trait aux lieux, aux moments et aux différentes modalités d'enseignement et d'apprentissage. Dans un cours hybride, le temps passé en salle de cours est réduit, mais jamais entièrement éliminé. Son organisation comprend minimalement un certain nombre d'activités et de séances à distance. De manière générale, la plupart des chercheurs et des universités considèrent qu'un cours hybride comporte entre 20 % et 80 % des séances de cours offertes dans un mode à distance. Pour un cours de trois crédits s'échelonnant sur 15 semaines, ce ratio représente entre 3 et 12 séances offertes en ligne.

Différentes formations co-existent : présentielles, à distance ou des configurations articulant des présentiels et distanciels. Comme le précisent Deschryver & Charlier (2012), si un dispositif hybride est « porteur d'un potentiel d'innovation pédagogique particulier, lié aux dispositifs technologiques qu'il intègre », se pose la question des changements qu'un tel dispositif peut engendrer dans les pratiques d'enseignements et les modalités d'apprentissages des apprenants. Les dispositifs hybrides peuvent prendre en compte les apprenants dans le choix des activités proposées, en s'appuyant notamment sur un travail collaboratif, un accompagnement du formateur mais également en laissant une « liberté de choix des contenus et méthodes. Effectivement, cette démarche présente : un temps d'implication des acteurs, puis sur l'appropriation et les changements provoqués sur les modalités de formation, les pratiques institutionnelles et les modalités d'apprentissage des étudiants.

## 7.2 La formation aux outils numériques pour faciliter le travail des enseignants

Malgré la mise en place de la formation hybride, 3 enseignants sur 5 sont restés dans une posture de résistance. Ils posaient des questions sur le fonctionnement et c'est seulement, en voyant que beaucoup de formations intégraient la plateforme moodle, qu'ils ont demandé à y accéder. Du point de vue de l'enseignement, ce changement se traduit par le passage de la profession d'enseignant à celle de consultant, dont le rôle est essentiellement celui de l'intermédiation entre les apprenants et l'objet d'apprentissage. Dans le cadre de ce paradigme, les enseignants sont désormais : des médiateurs entre le savoir et les étudiants, des facilitateurs d'apprentissage, des entraîneurs, des collaborateurs dans la réussite des apprenants. Ils doivent donc aider les apprenants à identifier leurs besoins propres selon leurs spécificités individuelles et à fixer après négociation des objectifs d'apprentissage raisonnables, c'est-à-dire tenant compte de ces spécificités individuelles et des contenus du programme. En ce qui concerne l'évaluation, ils doivent être à même de fournir à l'apprenant des moyens de s'auto-évaluer et d'être capable d'effectuer une évaluation qualitative de ses progrès, en assurant un suivi tout au long de l'apprentissage.

## 7.3 Révision du référentiel de formation ainsi que la pédagogie universitaire avec les professionnels

La conception du référentiel de métier-compétence a permis de formuler et de valider les compétences exigées pour exercer le métier en cause. Généralement, l'élaboration d'un référentiel de formation consiste essentiellement à réorganiser et à compléter l'information en relation avec chacune des compétences de façon à présenter une démarche intégrée de formation qui sera, par la suite complétée par le contenu du référentiel d'évaluation. La compétence est ensuite traduite en comportement relatif aux apprentissages, aux tâches ou aux productions propres à un métier. Ainsi, 2 techniques sont proposées : (i) la pédagogie formelle où la compétence détermine au départ, les résultats attendus. (ii) la pédagogie plus ouverte, centrée sur le cheminement de la personne. Cependant la pratique de la formation s'est transformée en hybride suite à la pandémie covid 19. Compte tenu du contexte avec les contraintes qui se posent et se répètent à chaque année, l'idée est de trouver comment améliorer la pédagogie universitaire et intégrer les professionnels. Il s'agit de proposer une méthodologie pour la réforme de l'offre de formation et de l'adapter aux besoins de la société.

## 7.4 La mise en place d'une structure et infrastructure adéquates à la formation hybride ou totalement à distance

Pour plusieurs raisons, notamment le problème de connectivité Internet, le manque d'infrastructure informatique accessible pour tous, le manque de compétences pour l'usage du numérique éducatif, la mise en place d'une structure et infrastructure adéquate à la formation hybride ou à la formation totalement à distance s'avèrent indispensables. Une démarche raisonnée pour un projet de formation hybride ou à distance devrait nécessairement commencer par préparer le cadre réglementaire qui légitimerait les choix technologiques, pédagogiques et économiques subséquents de la FOAD, la motivation et la valorisation des heures engagées par les enseignants. La structure et les moyens logistiques doivent permettre :

- Une assistance technique et pédagogique appropriée ;
- Des précisions sur le déroulement de la pédagogie ;
- Des moyens d'organisation de la formation ;
- Des moyens de contrôle des assistances pédagogiques ;
- Des moyens de contrôle de l'assiduité ;
- Des moyens d'évaluation.

Aujourd'hui dans le monde de la formation, nous assistons à une transformation des dispositifs de formation traditionnels vers de nouveaux dispositifs « hybrides » intégrant de nouvelles dimensions innovantes et mêlant à la fois les modes présentiels et distanciels. La formation hybride est devenue une formation imposée compte tenue de la pandémie du Covid 19. L'apprentissage hybride contribue à transformer la façon dont l'éducation est dispensée. Cependant, il est également important de comprendre certains principaux défis de cet apprentissage. De plus, une fois ces défis bien compris, les enseignants doivent trouver des moyens de les surmonter pour offrir une meilleure expérience d'apprentissage. L'un des principaux défis potentiels de la formation hybride est l'implication des étudiants. Il s'agit de trouver les moyens pour les stimuler et les motiver. L'émergence des problèmes techniques, logistiques et structurels se manifestent également. Au sein des entreprises, pour que ces dispositifs « hybrides » soient réellement efficients et opérationnels, la formation adaptée à leurs besoins, certains points sont essentiels : que faut-il faire avant de se lancer dans un dispositif hybride, comment réussir ce type de dispositif, quel type

de pédagogie doit-on développer au sein d'un dispositif hybride, quels sont les enjeux lorsqu'on met un dispositif d'évaluation de compétences, quels nouveaux métiers émergent dans la formation ?

En conclusion l'exemple de la classe inversée est illustratif de la recherche de pistes nouvelles pour la formation hybride. On peut aussi s'appuyer sur l'expérience de l'apprentissage en alternance qui progresse aussi et depuis longtemps. Et c'est justement le problème : si on limite l'hybridation au numérique, on risque d'oublier que la problématique qui se révèle particulièrement en ce moment, c'est celle d'une pédagogie qui s'appuie désormais au-delà des lieux de scolarisation, sur les lieux de vie sociale et sur les moyens matériels de cette vie sociale, et le numérique y contribue largement. Une réflexion s'engage réellement pour assouplir le fonctionnement universitaire afin qu'il réponde mieux aux aspirations de la société et en particulier aux populations les plus fragiles.

# **UGANDA:** Study on the Higher/ Tertiary Education Response to COVID-19 and Identification of Good Practice

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**UGANDA**

# Chapter 1: Introduction

Since December 2019, COVID-19, a highly infectious disease caused by a new virus, has had an increasing impact on countries and regions around the world. Starting initially as a health crisis, the COVID-19 pandemic has quickly shown a socio-economic dimension (PWC, 2020). In Africa, more than 55 countries and territories are now affected including the six(6) Partner States of the East African community (EAC), all of which fall in the highest risk category due to direct flights and established contact with affected provinces in China, United Arab Emirates and Europe. Consequently, schools, universities and other higher education institutions have been forced to suspend campus-based operations, such as teaching and research, with significant impact on countries' competitiveness and their ability to foster advanced skills and regional development (Arnhold *et al.,* 2020).

In Uganda, the first case of COVID-19 was identified on March 20 2020, and was preceded by a Presidential address made on March 18 2020, where restrictions were imposed including: closure of borders with some countries, closure of schools and all other education institutions, stopping religious gatherings of any form, closed business operations that were categorized as non-essential, and imposed travel restrictions both internally and internationally. The closure of all educational institutions directly impacted approximately 73,240 institutions (pre-primary to higher), 15,126,167 learners, 600,000 learners in refugee settlements, and 548,182 teachers (BMAU, 2020). Consequently, WHO AFRO placed Uganda among the list of priority 1 countries based on the number of flights to affected areas and passenger volume.

This report on Uganda is part of a study commissioned by UNESCO in partnership with several Member States, namely Djibouti, Ethiopia, Kenya, Madagascar, Mauritius, and Uganda, to determine the *Higher Education Sector Response to COVID-19 in the Eastern Africa region,* and to identify and share good practices between them. In addition to addressing the data gap at the level of higher education institutions, the study also sought to document good practices in higher education/tertiary on how innovation encouraged by universities boosted an important ideal of education through direct service to the community and society at large, as was the case through the production of sanitizers, and making ventilators that could be scaled up by the country.

This analysis is done through a desktop review of secondary data wherein systematic literature, policy documents, as well as related models between COVID-19 and higher education are examined. With this review, we aim to contribute to the discussion by recording how the various stakeholders within higher education responded to the pandemic and highlighting the real and estimated effects of the pandemic on higher education institutions, consequences and lessons of the responses to the pandemic.

## 1.1 Situation of Higher/Tertiary Education in Africa

Higher education serves as the principal venue for knowledge creation and economic and social development (Aina, 2010) and occupies a very special place in any society's development due to its function of fostering the capacity of individuals and communities to promote sustainable development. As aptly described by Teffera and Altbach (2004, p. 3), higher education in Africa is 'as old as the pyramids of Egypt, the obelisks of Ethiopia, and the Kingdom of Timbuktu.' It plays a critical capacity building and professional training role not only in national development but also in support of all the Millennium Development Goals (MDGs) (Materu, 2007) and subsequently, Sustainable Development Goals (SDGs). Its central role in the economic and political development of the continent in

an increasingly globalizing knowledge society is widely acknowledged (Cloete *et al.*, 2011).

Globally, the pressure on higher education systems to provide access will continue unabated in the years to come due to the rapid growth of the sector, particularly in Asia and Africa (Bloom, Canning & Chan, 2005). Major transitions and reforms in African education systems have taken place focusing on access, equity, quality, affordability and relevance to the national philosophy and needs. Various policies and legislations have been put in place to enhance the expansion of higher education institutions, through both public and private means, to meet the aspirations of rapidly growing national populations and economies.

## 1.2 Continental commitments to transformation of higher/tertiary education in Africa SDG 4.3 and CESA and other continental outcome documents

Education for All (EFA) has its basis in the Universal Declaration of Human Rights (1948), which was articulated more extensively at the World Conference on Education for All in Jomtien (1990). In 2000, international commitments were made to six EFA goals at the World Education Forum in Dakar and to two education-related MDGs at the Millennium Summit in New York. The SDGs that replaced the MDGs in 2015, recognize higher education as an integral part of SDG 4, in which SDG target 4.3 of Goal 4 particularly emphasizes improved recognition of, and access to, equitable and quality assured higher education. There is now a resounding call to action for African intellectuals to spearhead the 2030 agenda for the SDGs (SDSN, 2016) with a plan to reinforce the SDGs which have a local and global focus with the African Union Agenda 2063, being the vision for the continent's development. Consequently, Africa has aligned itself with various international agreements and conventions that hold significant implications for the continental efforts being made as regards improving the status of quality in higher education.

The 1981Arusha Convention, as the regional convention on the recognition of higher education studies in Africa, was revised in 2014 and adopted as the Addis Convention. It aims to promote international cooperation in higher education and to facilitate the mobility of teachers and other highly skilled workers, students and graduates. As a framework agreement, it provides general guidelines meant to facilitate the implementation of regional co-operation relative to the recognition of studies and degrees through national, bilateral, sub-regional and regional mechanisms that exist or are created for that purpose.

The African Union Commission (AUC) views regional integration as a key and intermediate step towards integration of African countries into the global economy. The goal is to bring convergence to Africa's higher education system, which has been diversely structured along geographical, colonial, linguistic and structural lines (Jowi and Sehoole, 2017). This goal is also reflected in the agenda of regional university organizations such as the Inter-University Council for East Africa (IUCEA) and the Southern Africa Regional Universities Association (SARUA). Furthermore, the implementation of the Pan African University (PAU) is a step towards the implementation of the Arusha Convention, which aims at harmonization of academic programs across borders to achieve enhanced collaborations, quality assurance, structural convergence, compatibility, recognition and transferability of degrees to facilitate mobility (Hann & Teferra, 2012).

The Continental Education Strategy for Africa (CESA 2016-25) is the continent's recent framework for transforming education and training systems, as dictated by Agenda 2063. It was adopted by the African Union Heads of State and Government during their 26$^{th}$ Ordinary Session on January 31 2016 in Addis Ababa, Ethiopia. Since then, much has been done by stakeholders to popularize CESA and develop implementable plans, through the CESA Thematic Clusters (AUC, 2020). The CESA Thematic Clusters have been identified for enhancing coordination, strengthening partnerships, and enhancing alignment and

harmony among stakeholders as well as facilitating the identification and deployment of synergies for enhanced efficiency and effectiveness. The CESA cluster for higher education has many sub-clusters under it, one of which has an exclusive focus on issues pertinent to quality assurance.

## 1.3 Higher Education in Uganda

The genesis of university education in Uganda is traced to the inception of Makerere University in 1922 (Nabayego & Itaaga, 2014) as a technical college to train African carpenters, construction workers and mechanics. In 1950, Makerere was elevated to a university-level institution whose degrees were granted by the University of London. Upon the independence of Uganda, in 1963 Makerere was reconfigured as one of three colleges constituting the University of East Africa, joining its young sister colleges in Dar es Salaam and Nairobi. The loose federation ended in 1970 when it became an autonomous national university (Sicherman, 2008). Until 1988 when Islamic University in Uganda came on board, higher education in Uganda was entirely a public venture and Makerere University, as the only public university at the time, almost had monopoly over the higher education market but. The deregulation, as part of the restructure adjustment measures of the 1990s, ushered in a host of other private universities to meet a pent-up demand for higher education in the country (Olweny, 2011). However, still future expansion of higher education institutions (HEIs) at all levels will be required to meet the growing demands.

The system of education in Uganda has a structure of seven (7) years of primary education, six (6) years of secondary education (divided into 4 years of lower secondary and 2 years of upper secondary school), and three (3) to five (5) years of post-secondary education. Students have a wide range of options between private and public education institutions depending on their aptitude, ambitions and resources. The tertiary education sector in Uganda comprises two tiers, namely degree awarding universities and 'other tertiary institutions, commonly referred to as the technical sub-sector, which offer diplomas and certificates (Jowi & Sehole, 2017). Higher education institutions in Uganda are divided into three categories: universities, other degree-awarding institutions (ODAIs), and other tertiary institutions (OTIs). Accredited universities are authorized to award certificates, diplomas, and undergraduate and post-graduate degrees. ODAIs are authorized to award certificates, diplomas, and specific undergraduate and post-graduate degrees, while OTIs are authorized to award certificates and diplomas.

The national vision of education is to have "Education as a basic tool for transformation of society, national integration and development." The vision of the Ministry of Education and Sports is "Quality Education and Sports for All" and its mission is to "provide technical support, guide, coordinate, regulate and promote quality education and training to all persons in Uganda for national integration, development and individual advancement." All policies in the education and sports sector are designed to fulfill this mission.

# Chapter 2: Covid-19 Pandemic

## 2.1 Statistics on impact of COVID-19 on Higher/Tertiary Education

On March 21, 2020, Uganda reported its first SARS-CoV-2 infection in a symptomatic traveler from Dubai, and by April 12, 2020, 54 cases and 1,257 contacts were identified. Statistics provided by Worldometer indicate that by June 2021, there were 47,147 confirmed Coronavirus cases, 362 deaths, and 43,401 recoveries.

In Uganda there are over 15 million learners enrolled in the education system, the bulk of whom are enrolled in day schools while the others are in boarding schools where many facilities are shared and therefore learners are in constant contact with each other, their teachers and other visitors on a daily basis. Approximately 600,000 more children are attending schools in the refugee settlements, some of which are located in high risk towns bordering countries that have reported confirmed cases of COVID-19. According to health professionals, children are considered as vector for COVID-19 and this increases the risks for the entire school system.

As shown in Table 1, the March 18 2020 closure of all educational institutions to avoid panic and possible rapid spread of new infections resulted into closure of more than 73,200 education institutions affecting more than 15,100,000 learners and 548,000 teachers.

## 2.2 Key responses of government and other stakeholders in response to the crisis

In terms of policy responses, countries tended to limit themselves to three areas: a) administrative measures to safeguard the operation of the system; b) financial resources; and c) the provision of resources to continue education activities (UNESCO-IESALC, 2020). Immediate economic responses implemented by countries can be highlighted in four categories, namely, restriction of movement, health measures, social measures and economic measures taken to reduce the socioeconomic burden on citizens whilst paving the way for economic recovery (AUC, 2020). From the beginning, institutional responses have covered different areas: the strictly health front, the adjustment of calendars, research and development contribution to mitigate the pandemic, the guarantee of continuity of teaching activities through distance education, bibliographic and technological resources, as well as socio-emotional support to the university community (UNESCO-IESALC, 2020).

By end of March 2020, all African countries but one had countrywide closures of education institutions (AUC, 2020), forcing students out of their physical learning spaces, and confining lecturers and professors to their homes (Lues, Padayachee & de Jager, 2020). At the regional

**Table 1:** Enrolment figures in schools and institutions (public and private) by education level

| | Type | No of institutions | No of learners | No. of teachers |
|---|---|---|---|---|
| 1. | Pre-primary | 28,208 | 2,050,403 | 90,742 |
| 2. | Primary | 36,314 | 10,777,846 | 315,787 |
| 3. | Secondary | 5,705 | 1,986,362 | 114,859 |
| 4. | Tertiary (including higher education) | 3,013 | 311,556 | 26,804 |
| | **TOTALS** | **73,240** | **15,126,167** | **548,192** |

level, some of the responses by the EAC Partner States, as highlighted in the AUC (2020) report, include the following:

- ***Restriction of movements:*** Closure of airports and borders, curfews, social distancing necessitating the need to stay at home, reduction on movement, and lock-down.

- ***Health measures:*** Deployment of nine (9) mobile laboratories, including test kits and Infection Prevention and Control (IPC) material, to member states and trained member staff on their use.

- ***Social measures:*** Undertaking an analysis of food needs in the region and put in place a mechanism to support farmers to ensure continuity of food supply, especially to vulnerable families.

- ***Economic measures:*** Encouraging conformity to uniform standards on Trade and Customs to minimize disruptions in the supply chain for essential goods, including facilitations of cashless payments and local production of essential products.

## 2.3 Responses at the National Level

In Uganda, having noted the rapid spread of SARS-CoV-2 in most other countries in the world, multiple measures were instituted to prevent entry and spread (Migisha et al., 2020). These included symptom screening at the airport, isolation and testing for symptomatic persons, and a mandatory 14-day institutional quarantine and testing of travelers from high-risk countries. Persons entering from low-risk countries were asked to self-quarantine but were not tested unless they had symptoms on arrival. Travelers in quarantine were tested if they developed symptoms or on day 14 of quarantine, regardless of symptoms.

Effective March 23, 2020, the country implemented a ban on all international travel, and closed both schools and universities. One day later, the Ministry of Health requested all travelers entering Uganda from the United Arab Emirates in the past two weeks to self-present for testing. Subsequently, all persons who had traveled from any international destination into Uganda since March 7 were asked to self-present for testing. On March 30 2020, the country instituted a complete lockdown, banning all public transport and public gatherings.

The Government of Uganda COVID-19 Response Information Hub, https://covid19.gou.go.ug/, was launched to provide response actors working on the COVID-19 outbreak in the country with the most updated data, information and resources. This includes information on what COVID-19 is, how to protect oneself and what to do when one is ill or suspect to be ill (at Ministry of Health website), as well as general information on the outbreak in Kampala (at the Kampala Capital City Authority COVID-19 response Hub).

Furthermore, Uganda has developed a one-year National COVID-19 Preparedness and Response Plan costed at US$126.2 million through which the Ugandan Government, the World Bank, and other Development Partners have aligned financial support to respond to the outbreak. The goal of this plan is to provide a framework for prevention and control of COVID-19 by curtailing importation of the disease, interrupting transmission early and fast through rapid detection and containment, and minimizing morbidity, mortality, and social and economic disruption. This goal is being pursued through six pillars: (i) development of country capacity for early detection, confirmation, reporting and referral of suspected cases to designated isolation units; (ii) development of the capacity for case management including management of severe case; (iii) raising of public awareness on the risk factors for transmission, prevention and control of COVID-19; (iv) strengthening of infection prevention and control

measures required to mitigate spread of COVID-19 in health facilities, institutions and at the community level; (v) strengthening of capacities for coordination, data management and surge capacity; and (vi) application of multi sectoral approach to minimize social and economic impact.

## 2.4 Higher Education Responses

The first immediate response to the lockdowns by HEIs has logically been to try to substitute all mobility with virtual activities. Site and exposure visits, training and education, workshops and consultancies have been replaced overnight by Zoom meetings, webinars, distance education and endless Skype calls (Aarts, 2020). Still, the general experience is that virtual cooperation also has many limitations. Moreover, precisely those groups that are often targeted in capacity building efforts, such as socio-economically vulnerable groups, women, girls, youth from poorer backgrounds, etc, tend to be less virtually connected.

In Uganda, a COVID-19 preparedness and response plan was formulated by the Ministry of Education and Sports (MoES) aimed at ensuring better preparedness and effective response by MoES, DLGs and stakeholders to COVID-19 outbreak. Specifically, it had three core objectives: i) to minimise the adverse effects of COVID-19 on learners, teachers and the education system at large, ii) to promote coordination and collaboration among education stakeholders and other agencies for a more effective response, and iii) to enhance the capacity of DLGs and stakeholders to promote protection of learners and teachers and ensure continuity of learning and transition to normal school program. These response measures were intended to enhance the capacity of the education stakeholders to respond to the emerging needs of learners, teachers, education authorities and communities during and after the COVID-19 outbreak. Some of the key actions include improving coordination among stakeholders, enhancing communication, building capacities of government systems at national and sub national levels, as well as providing resources to ensure that children are learning even during the time for school closure. Some of the specific intervention areas to ensure proper responses by the education sector include the following:

- **Mitigating the impact COVID-19 on learners, teachers and the education system at large:** mapping of stakeholders, capacities and resources; capacity building of MoES, LGs, DEOs, head teachers, and school management committees, Boards of Governors, and Governing Councils; developing and disseminating messages on COVID-19; continuing to support risk analysis and design mitigation measures; developing a recovery plan (including guidelines on resumption of learning, time-table, exams, etc.); effectively implementing the recovery plan in schools; and enhancing the capacity of stakeholders for monitoring and evaluation of education and sports sector.

- **Promoting coordination among education stakeholders and other agencies for a more effective response:** establishing an Education National Task Force for COVID-19 response; establishing a coordination mechanism of COVID-19 education response at district and sub-district levels; providing a coordination and communication mechanism among education stakeholders (establishment of various task teams for core areas of education response); providing cross sector coordination with stakeholders (NTF (MoH), MoES, MoGLSD, MoLG, UN agencies, NGOs, EiE WG, DLGs); and mobilizing resources and fund-raising mechanisms.

- **Enhancing the capacity of Ministry of Education and Sports, LGs and stakeholders to promote protection of learners and teachers and ensure continuity of learning and transition to normal school programme:** developing COVID-19 national preparedness

and response plans for education and sports sector; providing support to LGs, sub-county authorities, SMCs to promote protection and wellbeing of teachers and learners; and building the capacity of teachers to carry on messages to ensure that children are supported by their parents and guardians.

- **Awareness and communication:** developing key messages and distributing IEC materials; monitoring and supporting implementation of measures for school closure; developing and disseminating awareness and health safeguarding messages to learners, teachers, parents and community members through various media (SMS, text, TV and radio); and documenting lessons learnt.

- **Protection and well-being of teachers and learners:** identifying and reporting the high risks children and teachers face in the community; strengthening linkages to referral mechanisms to service points at community level; promoting psychosocial support for teachers and learners through giving messages; and promoting hygiene and sanitation practices including supply of soap, disinfectants, hygiene kits, etc.

- **Supporting continuity of learning:** providing support to identify/develop materials for learning continuity; validating, printing and distributing self-learning materials to all learners; collecting and validating distance learning materials (e.g. radio, SMS, online/ offline digital content, printed material) with special measures for candidate classes); mobilizing teachers and community leaders to promote and monitor continuity of learning programmes; providing support to the provision of air time (telephone, radio, TV) to DEOs, DIS and head teachers to mobilize teachers to remain in touch with learners to support continuity of learning; and providing lessons through digital, TV, radios, self-learning materials, etc.

- **Providing support to institutions that are being used as isolation centres:** identifying and documenting all education institutions where COVID-19 exposed people are quarantined; ensuring that adequate supplies and materials for use are provided; collaborating with other sectors to ensure safety of both quarantined and staff; and repairing and fumigating institution facilities to prepare for resumption of classes and training.

# Chapter 3: Overarching Analysis

## 3.1 Review of key policy directions for higher/tertiary education institutions towards socioeconomic transformation

There a number of policy documents and pronouncements that address higher education with respect to key issues of access, equity and quality. These can generally be grouped into two categories:

- **Higher Education Policy Documents:** The current official documents defining the national higher education strategy policies including Higher Education Law, the Universities and Other Tertiary Institutions Act 2001; Gender in Education Sector Policy 2016; and the Second National Development Plan 2015/16-2019/20.

- **Equity Policy Documents:** The broad and specific equity objectives identified in the policy documents, including increasing the number of scholarships for disadvantaged areas to enroll in higher education (Second National Development Plan); consideration by the Admission Committee of a Public University of affirmative action in favor of marginalized groups on the basis of gender, disability, and marginalized schools (The Universities and Other Tertiary Institutions Act); achieving gender equitable and quality higher education in Uganda; and prioritizing gender responsive teaching and learning of science-based disciplines and subjects which are critical for national development, especially for girls and women (Gender in Education Sector Policy). The equity target groups identified in the policy documents include low-income students, gender groups, and students with disability. Whereas Uganda is planning to achieve gender parity by 2030 (Gender in Education Sector Policy), there is currently no standalone policy document dedicated to equity promotion in higher education.

At the regional level, the Consultative Meeting of the East African Community (EAC) heads of state held on May 12 2021 agreed on a harmonized regional response to the COVID-19 pandemic that includes: (i) adopting a harmonized system for certification and sharing of test results; (ii) establishing a regional mechanism for testing and certifying truck drivers and the adoption of an EAC digital surveillance and tracking system for drivers and crew; (iii) supporting agro-processing and value chains; and (iv) establishing special purpose financing schemes for SMEs.

## 3.2 What is the governance structure vis-a-vis the Ministry?

Using their considerable previous experience with other outbreaks, such as Ebola, the government's response included the quick development of institutional arrangements, rapid pooling and allocation of funds, and the development of operational guidance to health system stakeholders on how to respond. Consequently, the government appointed an emergency response team to coordinate the response across six pillars, including: governance and leadership; surveillance and laboratory; case management; logistics; risk communication, social mobilization, and community engagement; and mental and psychosocial support. While the Ministry of Health was responsible for policy and strategy, it coordinated with the Office of the Prime Minister on the strategic and operational command of the response, as well as a series of cross-cutting functions, such as planning, budgeting, and partner coordination. The already existing district surveillance teams and District Task Forces (DTF) were immediately called into play to respond to the virus in their jurisdictions.

## 3.3 What are the funding sources? How much of the budget is coming from government allocation?

The two commonest funding models are the public model where funds come from the central government, and the market model where market forces apply. The public model allows the allocation of government funds to individual institutions in accordance with both the budget made available by government and with government's policy priorities (Pundy, 2003). The second, and increasingly popular, model is the liberalized or market model of funding of higher education (Oketch, 2003), which stresses the injection of the market principles and market-driven approaches into the financing of higher education to make it completely self-financing.

In Africa, financing of education priority areas has traditionally come from a mix of internal and external sources, including reallocations from within government budgets, revisions to programming, and assistance from development partners – mainly GPE, the World Bank, UNICEF and Education Cannot Wait (ADEA, 2020). The African Development Bank has provided grants or loans to several African countries in response to COVID-19, but such funds are not necessarily earmarked for the education sector. Most received funding to plan for emergency responses to COVID-19 in the education sector have come from GPE and other external agencies. Households and private sector entities have also played a role in financing education responses to the pandemic, in some cases through in-kind contributions. ICT services providers, for example, have partnered with ministries of education to provide free airtime for school broadcasting or digital learning tools.

In Uganda, a multi-sectoral approach financed, managed, and combatted the response. Funds for surveillance, sample collection, and contact tracing for districts were channeled through local governments, while those for enforcing lock-down measures and quarantine were channeled through the Ministry of Internal Affairs, Department of Defense. The health sector was given a smaller proportion of total funding for the response than expected. As a result, important challenges impeded full implementation of COVID-19 preparedness and response activities.

As per the COVID-19 Response Plan Budget March 2020 to June 2021, the total budget for the multi-sectoral COVID-19 Response was UGX 2,221,990,315,936 (USD 600,535,742) for

the period March 2020 to June 2021. The total committed funds (UGX 766,732,429,404) as of June 2020 included the UGX 386,608,640,216 (USD 104,488,822) already disbursed by the Government of Uganda to the various sectors involved in the response as well as funding from on-budget support projects, development partners, and contributions from the private sector and individuals. The GoU has continued mobilizing resources to fill the identified gap of USD 393,310,761 to ensure that the population is protected and those affected receive the appropriate management and social support.

On May 6, 2020, Uganda secured US$491.5 million in emergency financing from the IMF under the Rapid Credit Facility, of which 30% was provided as budget support considering the impact of COVID-19 (IMF, 2021). On June 29, the World Bank approved a US$300 million budget support under the Uganda COVID-19 Economic Crisis and Recovery Development Policy Financing supporting reforms to provide immediate relief to individuals and businesses most affected by the pandemic. In addition, part of the costs of vaccination has been financed by COVAX. Finally, spending reallocations also contributed to the financing of Covid-19-related spending. Table 2 below a summary of allocations to the MoH by source.

**Table 2:** COVID-19 On-budget Support (UGX) to MoH by June 30 2020

| Source | Received | Pipeline | Total |
|---|---|---|---|
| GOU / MoH | 119,188,234,110 | 89,000,000,000 | 208,188,234,110 |
| GOU/WB CERC | 55,500,000,814 | - | 55,500,000,814 |
| Islamic Dev't Bank | 51,023,000,000 | - | 51,023,000,000 |
| GFTAM | 28,033,934,300 | - | 28,033,934,300 |
| GAVI | 10,418,249,100 | - | 10,418,249,100 |
| GFTAM C19RM | | 69,624,983,100 | 69,624,983,100 |
| GOU/WB UCREPP | | 56,561,515,200 | 56,561,515,200 |
| **Total** | **264,163,418,324** | **215,186,498,300** | **479,349,916,624** |

## 3.4 What was the level of infrastructural developments in relation to technology?

The National IT survey 2017/2018 found that 65.3% of Ugandan households owned a radio, 21.8% owned a Television set, 5.9% had access to a computer at home, 10.8% of households owned a household telephone, and 10.8% of all households had at least one member who had Internet access (Tumwesige, 2020). Most Ugandans receive their information from radio because of its high level of penetration and affordability. People, especially in rural areas, listen to the radio at home, at their friends, relatives or neighbours, and at work.

The introduction of cellular telephony revolutionized Uganda's telecommunications industry since the first network went live in 1995, with two more followings in 1998 and 2001. As early as 1999, Uganda became the first country on the continent where the number of mobile subscribers passed the number of fixed-line users, and the ratio has been growing. According to UCC, Uganda has 63.9% mobile penetration, and the National Information Technology Survey found that at an individual level 70.9% individuals owned a mobile device, and of this only 16% owned a smartphone (UCC, 2019). Of the households with internet access, 99.1% used their mobile phones to access the Internet (NITA-U, 2018).

Today, there are several massive open online course (MOOC) platforms offering a wide range of courses from leading universities, private sector and individuals. However, low internet penetration in Uganda means that a few individuals can access this mode of learning (Tumwesige, 2020). Furthermore, several technology-related barriers – including inadequate infrastructure, high costs of access, unreliable and poor quality of Internet connections and electricity services, weak policy regimes, inaccessibility to appropriate software and course-delivery platforms, shortage of skilled personnel to manage the resources and maintain new delivery modes, a technology-illiterate user group, limited bandwidth, and lack of access to online scholarly material – have to be overcome for the Internet to become a national option for extending education and learning (Farrell, 2007). Besides the national challenges of poorly developed ICT infrastructure, high bandwidth costs, unreliable supply of electricity, and a general lack of resources to meet a broad spectrum of needs, there are also other significant barriers to accessing the delivery platforms.

The digital divide in Uganda highlights the enormous inequality gap. As a nation, the current state of technology infrastructure and access in Uganda only allows for electronic measures to serve a few and only provide basic programs, and cannot provide comprehensive or long-term

solutions. The difficulty of accessing learning technologies and the level of digital literacy skills between the privileged and the deprived groups continue to widen the education gap. For the vast majority of learners living in rural Uganda, online learning is but a dream within a dream, as the daily realities and struggles to access basic needs, means education is often not a priority.

Uganda cannot afford to continue to look from the sidelines, and policy makers must continue to seek long-term solutions that allow equitable education for all through consultation processes, learning and interaction with stakeholders. Similarly, schools and higher education institutions need to lead the shift to the new ways of teaching and learning. This demands that institutions ensure that teachers and faculty members develop the required digital literacy skills, develop effective pedagogical strategies, and enhance peer collaborations and support to secure adequate technology and bandwidth.

# Chapter 4: Institutional Compliance

## 4.1 Findings on institutional compliance on the measures prescribed for response to COVID-19 with concrete examples of actions taken at institution level with an emphasis on emerging good practices

Over the course of the lockdown period the Ministry of Education and individual higher education institutions, alongside various different stakeholders, embarked on implementing a variety of interventions to ensure the continuity of learning.

a. **Policy reform:** Policy measures for addressing all aspects of learning continuity including clear policies for school closure or reopening during and after emergencies to ensure safety of teachers and learners, quality and equitable access to marginalised and difficult to reach student.

The hope for schools resuming is one that relies heavily on the ability of the Education Ministry to raise funds for regular testing of learners and teachers in what is termed as a phased reopening of schools. The educational institutions have no policies on opening and re-opening during the pandemic, but dutifully follow government directives.

b. **Financing requirements:** Measures taken by governments and educational institutions to mobilize financial resources to address emerging needs of higher education to strengthen the education systems for recovery and resilience and to build back better.

As discussed in 3.3 above, the government allocated a good percentage of its budgetary provisions to COVID-19 interventions, although it was not able to raise enough money to deliver all the requirements. The government also received substantial support from the international community, the private sector and private individuals, but serious financial gaps still existed. For instance, despite the US$14.57bn raised, the COVID-19 taskforce requires an additional US$30.43bn to adequately implement all of their planned interventions.

c. **Guidelines for safe operations:** Measures taken to ensure conditions that reduce disease transmission, safeguard essential services and supplies and promote healthy behaviour. This includes access to soap and clean water for safe hand washing, procedures on when staff or students feel unwell, protocols on social distancing and good hygiene practices.

Following the latest Presidential directive on June 7 2021 restricting movement and closing learning institutions, Makerere University circulated guidelines and directed that all units, staff and any other individuals within the university premises must at all times comply with the COVID-19 SOPs as prescribed by the Ministry of Health, including, but not limited to the following:

i. Always wearing a face mask in public places; no individual without a face mask would be granted access to university premises.

ii. All public buildings shall have hand washing facilities and hand sanitizers at the entrances; all individuals seeking to access the buildings must wash their hands and/or apply a hand sanitizer.

iii. All public buildings must have a temperature gun at the entrances; all individuals seeking to access the buildings must have their temperatures taken and recorded, and any

individual with a temperature above normal shall not be allowed to access university buildings.

iv. All public buildings shall maintain a registration book at the entrance; all individuals seeking to access the buildings must register on a daily basis.

v. Residents on the university campus are discouraged from welcoming visitors; access will be denied to any persons seeking to access the university premises for the sole purpose of visiting.

Other guidelines were aimed at operationalizing the directive to maintain at most 30% physical staff presence at the university:

i. All units shall maintain a 30% physical presence of staff; the heads of the respective units shall observe this requirement by rotating staff while considering the prevailing tasks and responsibilities.

ii. All academic and administrative staff shall continue to work online during the period when they are not physically at the university; all staff remain obliged to deliver on the outputs required on them.

iii. Working physically or online shall not be construed as a special assignment or extra work.

iv. The University Mosque, St. Francis Chapel and St. Augustine Chapel shall remain closed for a period of 42 days or otherwise determined by Government.

v. On-going capital developments to which Makerere University is contractually obligated, shall continue with strict observance of the COVID-19 preventive guidelines as provided by Government through the Ministry of Health.

vi. All University staff are required to take the COVID-19 vaccine in line with the Presidential directives.

vii. The University Hospital will continue to offer services to the university community on a 24-hour basis; any suspected COVID-19 cases and/or health emergencies should be reported to the University Hospital.

**d. Provision for compensated learning:** Actions taken to compensate for lost instructional time, strengthen pedagogy and build on hybrid learning models such as integrating approaches in remote and distance education, including knowledge dissemination on disease transmission and prevention.

The current COVID-19 crisis has obliged most education systems to adopt alternatives to face-to-face teaching and learning, forcing many education systems to move activities online, to allow instruction to continue despite school closures. As a result, online teaching and learning have been used by teachers and students on an unprecedented scale. With the significant change to the way learning is presently operating, teachers must inevitably re-skill at a record pace to support the continuity of learning, by stepping away from traditional teaching methods and embracing the use of technology.

While some universities, such as Uganda Technology and Management University (UTAMU) were already advanced in providing e-learning as their dominant delivery model, this switch gave other universities an opportunity to embrace online studying. At Makerere University, for instance, students were advised to access reading materials on MUELE (Makerere University Electronic Learning Environment) that was seen as the only option during the lockdown. Other platforms such as WhatsApp group chats and Google platforms have as well been embraced to continue with the different discussions among course mates and lecturers. This is easing the

interaction and preparation for the upcoming exams.

As a way of ensuring continuation of teaching and learning following the latest lockdown and closure of learning institutions, Makerere University provided the following specific guidelines:

i. All electronic platforms, including the Makerere University E-Learning Environment (MUELE) and electronic resources under the university library, shall continue to be accessible online during the closure period.

ii. The university library shall remain closed for physical access and shall maintain essential staff within the 30% limit while other staff will continue to work remotely to support access to online resources.

iii. The Academic Registrar will issue a revised semester schedule following approval by the University Senate and Council in line with guidance from the Ministry of Education & Sports (MOES) and/or the National Council for Higher Education (NCHE).

iv. Colleges are requested to evaluate the status and readiness to undertake online teaching for Semester II of 2020/2021 Academic year before it can be implemented.

With regard to research, the following guidelines were provided:

i. Students undertaking research and other projects shall continue to interact with their supervisors online.

ii. Staff with research activities that require inter-district travel should consider rescheduling their field research activities.

iii. Staff undertaking research involving perishable laboratory materials that were already acquired should register with their unit heads to be included in the allowable 30% physical presence on the campus so as to continue with their research activities.

As has been observed above, following the abrupt closure of schools, teachers have extensively used mobile phone applications like WhatsApp, Facebook and Google hangouts to continue engaging their students (Tumwesige, 2020). However, issues of cost and affordability of mobile internet, access to phone charging points and lack of digital literacy and responsible use of technology greatly hampered these processes. Partnering with mobile networks to offer special tariffs and bundle packages for learning purposes; exploiting offline mobile phone educational applications and open source software platforms, are a few of the strategies that were adapted at various levels to overcome the challenges and serve the educational needs of students and teachers.

**e. Learning assessment:** In a number of universities, students have continued with the online discussions and assessments on the respective e-learning platforms to be able to complete the semester planned courses on time. For example, Uganda Technology and Management University (UTAMU) issued a directive to have the rest of the tests, course works, presentations and the exams on its e-learning platform. Other universities like Uganda Christian University (UCU), Mbarara University of Science and Technology (MUST) and Kyambogo are looking into the option of having the final exams done online. On its part, Makerere University suspended all examinations that were scheduled and not administered to students by June 7 2021, and informed that a new timetable for the examinations would be communicated.

f. **Wellness and protection:** Arrangements in place to expand the focus on students' well-being which reinforces the protection of learners, teachers and the learning community through enhanced referral mechanisms and the provision of essential institution-based services.

Problems caused by parental abuse, poverty, other forms of violence led to trauma and some youth really experienced a lot of post-traumatic stress that could be transitioning them to another stage of contemplating suicide (Athumani, 2021). Psychologists say the contemplation of suicide takes place in stages, including losing hope, planning on how to end their lives by either using an overdose, poison, ropes or falling from high elevations – and finally accomplishing the act. Some warning signs psychiatrists said one should look out for are withdrawal, crying, self-isolation, loss of interest in formerly pleasurable activities and lack of sleep. As has been noted, a number of institutions, notably Makerere University, enhanced their guiding and Council units to deal with such.

g. **Reaching the most marginalized:** Adaptation of opening policies and practices in the educational institutions to ensure return of marginalized groups such as previously, especially women, displaced and migrant children and minorities.

Experience from countries affected by COVID-19 shows that school closures put gains made in access to education and learning at risk. School closures even when temporary, carry high social and economic costs to society. The poorest and most marginalized children and youth also face broader risks linked to limited access to essential services like school information on disease prevention, water and sanitation, ICT service, etc. Studies have shown that after abrupt closure of schools, some learners never returned to the classroom after schools re-opened, while others had fallen far behind in learning and development. Recent information show that the school closures have contributed to increased rates of sexual abuse and exploitation of children, early marriages as well as teenage pregnancies. The disruptions they cause touch people across communities, but their impact is particularly severe for disadvantaged boys and girls and their families. Other children face similar uncertainty – such as children with disabilities, who already face enormous challenges accessing school, and adolescent girls who often drop out of education completely after becoming pregnant or being married off young, which is likely to increase.

## Case of Refugees

In Uganda, great effort was expended at ensuring that the most vulnerable children, such as refugees and children with disabilities, have access to learning even during the pandemic period. Uganda hosts 1.5 million refugees – the third most in the world – 60% of whom are children mainly from South Sudan, the Democratic Republic of the Congo, Burundi and Somalia (Atamanov et al., 2021). A recent UNHCR/World Bank phone survey reveals the devastating toll of COVID-19 on the living conditions of refugees in Uganda and highlights the need for strengthened support to refugee communities, to mitigate the suffering inflicted by the pandemic. Whereas the whole country was filled with trepidation, the situation was doubly worrying for the refugee population in Uganda, as a people group highly dependent on local and international humanitarian support even for the most basic needs (Muzungu, 2020). The closure of schools comes at a particularly vulnerable time, as lack of funding forced the World Food Programme to announce a 30% cut in food assistance to refugees from April 2021, which put further financial strain on families.

Though COVID-19 poses a health threat to the livelihoods of refugee and other vulnerable children across the country, there is a great need, now more than ever, to sustain and even enhance programme delivery to ensure education, nutrition and safety for every child. If their education stops completely now, many children are likely to have to go to work

and are highly unlikely to return to education. Remote learning responses should be designed in recognition that many refugee communities have poor phone network, which may make traditional home teaching more effective than technology-based approaches. Given the increasing digitization of the refugee population in Uganda through mobile technology, UNICEF through a partnership with Airtel Africa is rolling out the use of digital tools to facilitate continued learning in Uganda and 12 other sub-Saharan African countries, at no cost to the learners (Muzungu, 2020).

h. **Communication strategy:** Review communication tools and messaging in relation to appropriateness, language and in accessible formats to cater for all within the business continuity plan of the higher education institution during the crisis to ensure reliable and trusted messages are disseminated for appropriate actions to be taken with full compliance.

The COVID-19 virus is new and, globally, there is limited knowledge about it, hence provision of information to the general public about COVID-19 contributes to the prevention and control of the disease outbreak. In Uganda, the MoH implemented RCSM interventions to raise awareness and build partnerships in preparedness and response phase of the pandemic throughout the country. Information generation was through the strategic information and research pillar to ensure evidence- driven communication. Key messages on the status of the pandemic with respect to the status of surveillance, number of cases, prevention measures and community engagement for prevention and social protection are regularly given through Presidential directives and the MoH. Dissemination to reach all residents is done by key stakeholders with and through the MoH. There is ongoing precautionary advocacy and orientation of mass media practitioners at national and district levels as well as communication of key messages to the general public.

The government adopted mainstream, social, and print media for their public health messaging. The President holds periodic press briefings to manage public perception and deliver situation reports about the pandemic. The COVID-19 Response Committee, led by the Prime Minister, coordinate the testing, contact tracing, and response in collaboration with districts and local councils (the smallest administrative unit in the country), the Uganda Virus Research Institute, and other relevant stakeholders. On their part, the NITA-U and MoICT, together with the private sector, have supported the development of several mobile applications including contact tracing application, verification of stickers, among others.

# Chapter 5: Innovative Development In Higher And Tertiary Institutions

This section documents the different innovative responses and practices that the universities have embarked on in response to COVID 19, including the policies in place to ensure the transition and enrolment of high school graduates to higher education.

## 5.1 Scientific research carried out by universities and academics during the COVID-19 period to find out drugs and vaccine against this pandemic

Conducting research is critical to understanding the novel Corona virus and the social and economic aspects the virus poses on the population of Uganda. There is currently no known cure for COVID-19 and thus the need to explore research and innovations in prevention, diagnosis and treatment including traditional medicine, as well as innovative approaches to managing the COVID-19 response. The Ministry of Health established a component to fund just-in-time studies and operational research geared towards expanding the evidence base on the evolution of the outbreak in Uganda, as well as the country-specific health, and socio-economic impacts. This component is expected to leverage the knowledge and expertise of the Uganda Virus Research Institute, regional bodies such as the East, Central and Southern Africa Health Community, the Africa Centers for Disease Control, as well as the academia. Similarly, the Ministry of Science Technology and Innovation (MoSTI) established a research technology and innovation task team to deliberate on appropriate scientific research, technologies and innovations to combat the virus. The MoSTI received UGX 9.53 billion for the national research and innovation programme framework for the FY2019/20, with a further UGX 5.23 billion being relocated to the Presidential Initiative for Epidemics to procure equipment and reagents for COVID-19 research.

Within the higher education system, specific cases abound that demonstrate attempts by the academia to find solutions to the pandemic through scientific research. For instance, through the World Bank-funded Africa Center of Excellence on Pharm-Biotechnology and Traditional Medicine (PHARMBIOTRAC), Mbarara University of Science and Technology presented three projects to the Ministry of Science Technology and Innovation (MoSTI), Uganda for consideration, including:

i. ***PharmSan Innovations***: This is a liquid and gel formulation hand sanitizer, produced to meet the World Health Organization (WHO) prescribed guidelines of hand sanitizers for prevention of COVID-19, with the aim of lowering the prices of the products thereby increasing their affordability for the local population.

ii. ***Exploration of Local Production of Chloroquine and Hydroxychloroquine:*** This is premised on the fact that Chloroquine and Hydroxychloroquine have been reported as beneficial in COVID-19 cases and found to be effective in inhibiting COVID-19 infection in vitro. Most important is the fact that Uganda and East Africa have no facility for production de novo of chloroquine or hydroxychloroquine. PHARMBIOTRAC is undertaking this research and innovation project in collaboration with Cipla Quality Chemical Industries Ltd, a leading Pharmaceutical Industry in Uganda.

iii. ***Identification of Potential Medicinal Plants*** used against COVID-19 as drug development efforts in Uganda for use against Coronavirus disease, tapping into the wealth of indigenous knowledge of traditional medicine. Through this process, a treatment, named Covidex, has been formulated from herbal plants that have been traditionally used to alleviate symptoms of several diseases. On June 29 2021, the National Drug Authority (NDA) gave Ugandans a green light to use Covidex as a supporting treatment for Covid-19 and other viral infections. When approving its use, NDA warned that the medicine does not cure Covid-19 but it can supplement the medicine health workers use to treat patients. The manufacturers would continue conducting random controlled clinical trials on the treatment, which are the highest level of evidence to ascertain any claims of treatment.

At Makerere University, the Africa Centre of Excellence for Materials, Product Development & Nanotechnology (MAPRONANO) established at the College of Engineering, Design, Art and Technology, has joined the frontline in the fight against coronavirus. Working in partnership with CODEK Engineering Ltd, a private partner, the Center has developed a self-sanitizing facemask with an inbuilt sanitizer, allowing for real-time disinfection while at work, as well as reuse of the facemask. This mask can abet the logistics challenge of face masks since it is reusable, and also minimizes the rate of health worker hospital-acquired infection since it allows for frequent sanitization. Other previous research related to Corona virus done by Makerere University academicians include the following:

i. *The evolutionary history of ACE2 usage within the coronavirus subgenus Sarbecovirus*: The findings provide important insights into the natural history of ACE2 usage for both SARS-CoV-1 and SARS-CoV-2 and a greater understanding of the evolutionary mechanisms that shape zoonotic potential of coronaviruses. https://news.mak.ac.ug/2021/03/the-evolutionary-history-of-ace2-usage-within-the-coronavirus-subgenus-sarbecovirus/

ii. *Coronaviruses Detected in Bats in Close Contact with Humans in Rwanda*: Bats living in close contact with people in Rwanda were tested for evidence of infection with viruses of zoonotic potential. Mucosal swabs from 503 bats representing 17 species were sampled from 2010 to 2014 and screened by consensus PCR for 11 viral families. https://news.mak.ac.ug/2019/12/coronaviruses-detected-bats-close-contact-humans-rwanda

iii. *Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in Dromedary Camels in Africa and Middle East*: Dromedary camels are the natural reservoirs of the Middle East respiratory syndrome coronavirus (MERS-CoV). Camels are mostly bred in East African countries then exported into Africa and Middle East for consumption. To understand the distribution of MERS-CoV among camels in North Africa and the Middle East, surveillance was conducted in Egypt, Senegal, Tunisia, Uganda, Jordan, Saudi Arabia, and Iraq. https://news.mak.ac.ug/2019/08/middle-east-respiratory-syndrome-coronavirus-mers-cov-dromedary-camels-africa-and-middle

iv. *Viral causes of Influenza-Like Illness in Uganda, 2008 to 2017*: Respiratory pathogens continue to present an ever increasing threat to public health. Influenza, Respiratory syncytial virus, human metapneumovirus and other respiratory viruses are major etiological agents for influenza-like illnesses (ILI). https://news.mak.ac.ug/2018/12/viral-causes-influenza-illness-uganda-2008-2017

v. *Further Evidence for Bats as the Evolutionary Source of Middle East Respiratory Syndrome Coronavirus*: The evolutionary origins of Middle East respiratory syndrome (MERS) coronavirus

(MERS-CoV) are unknown. Current evidence suggests that insectivorous bats are likely to be the original source, as several 2c CoVs have been described from various species in the family *Vespertilionidae*. https://news.mak.ac.ug/2017/04/further-evidence-bats-evolutionary-source-middle-east-respiratory-syndrome-coronavirus

On its part, the Uganda Virus Research Institute has been actively responding to disease outbreaks in Uganda and other parts of Africa. The institute's experience, coupled with the existence of a strong pool of local experts who are very knowledgeable in handling highly infectious organisms and a clear structure for public health emergency response within the Ministry of Health, played a major role in making Uganda's response to COVID-19 successful. The Uganda Industrial Research Institute (UIRI) remodeled one of the work spaces for manufacturing standard masks, and is able to produce 15,000 masks per day. Furthermore, the Natural Chemotherapeutics Research Institute is in the process of developing a COVID-19 cure, UBV-01N, which has so far been used by 53 people and studies are ongoing.

Other research was also undertaken by various academicians to address the pandemic from different perspectives. Some of these are highlighted below:

i. Migisha, et al. (2020) describe the epidemiological, clinical, and transmission characteristics of these cases. A confirmed case was laboratory-confirmed SARS-CoV-2 infection during March 21–April 12, 2020 in a resident of (or traveler to) Uganda. The team reviewed case-person files and interviewed case-persons at isolation centers, and identified infected contacts from contact tracing records.

ii. Echoru, et al. (2020) conducted a study to determine the knowledge, attitudes, and preparedness/practices of lecturers and students in the fight against COVID-19. The study identified lecturers and students as potential stakeholders in the fight against community transmission of COVID-19.

iii. An academic research by Meji, Dennison and Mustafa (2021) explored the data-set of academic difficulties among different age groups of students studying in various schools, colleges or universities during the COVID-19 induced lockdown. The data-set spotlights the academic difficulties faced by the students to the Government of Uganda (GoU) for taking remedial measures that could be beneficial for the students during the COVID-19 induced pandemic crisis.

iv. A paper by Mbazzi et al. (2021) reported a study with families of children with disabilities in Uganda during the Coronavirus pandemic in 2020.

## 5.2 Psychosocial assistance for students and professors and innovative ways developed and applied by universities and tertiary institutions

COVID-19 is a terrible disease that has brought about so many psychological challenges within the population, but with many more effects to the students and the entire community. Prolonged school closures and home confinement during a disease outbreak might have negative effects on young people's physical and mental health (Brazendale et al., 2017; Brooks et al., 2020), which might be exacerbated by the lack of peer support and alternatives for mitigation of risks (SPAU, 2020). Evidence suggests that when young people are out of school (e.g. weekends and summer holidays), they are physically less active, have much longer screen time, irregular sleep patterns, and less favourable diets, resulting in weight gain and a loss of cardiorespiratory fitness (Wang et al., 2019). Such negative effects on health are likely to be much worse when they are confined to their homes without outdoor activities and interaction

with peers during the outbreak. Furthermore, mental health issues for faculty cannot be ignored as significant numbers of faculty have experienced stress and anxiety brought about by confined lives, increased workload, and job uncertainties (Agyapong et al., 2020, p. 8).

Already, asstudentsweredepartingfrom Makerere University following the last institutional closures, they made remarks like "shall we ever finish?", "let us go and get married", etc. They put on faces of sadness, anxiety, and many other forms of negative emotions. At their homes, parents too were having other challenges and anxieties that indicated that they needed help to deal with. Following the loss of a student from the School of Law to suicide, Makerere University Counselling and Guidance Centre promised to intensify its online presence as an avenue to reach out to the community:

i. With support from the College of Computing and Information Sciences (CoCIS) staff, an app, UniCare, was developed, which people can download and reach a counsellor of their choice via e-mail, telephone, chat, etc, at any time of their convenience.

ii. Fortnightly Zoom sessions would be held, addressing a topic of interest based on the prevailing need.

iii. Mobilizing and building capacity of student leaders to provide support in delivering any content developed to students via students' WhatsApp groups.

iv. Continuous engagements with students via the Counselling and Guidance Centre Twitter and Facebook accounts.

At the national level, the sub-component on Psychosocial Support & Gender-Sensitive Considerations appreciates that patients and their families would need support, especially those who are isolated. Consistent with the recommendations of the SPRP document, mental and psychosocial support would be provided to COVID-19 patients, survivors, their families, and frontline health providers. Specifically, two psychosocial specialists were recruited to support case management and counselling. For health workers, the project provided guidance and counselling on how to better manage burn out and stress, given the enormous strain on the health workforce.

In addition, experience from past outbreaks – such as Ebola – show the importance of placing attention on gender issues in containment and mitigation efforts to improve the effectiveness of health interventions and promote gender and health equity goals. Within this context, the project attempted to address gender norms and roles that influence differential vulnerability to infection, exposure to pathogens, and treatment accessibility. The project also provided essential medical supplies for comprehensive care of Sexual and Gender-Based Violence (SGBV) survivors. In collaboration with the Ministry of Gender and other relevant actors, the MoH ensured the dissemination of information on available services for SGBV, use of established response hotlines, and community outreach.

## 5.3 Impact of COVID-19 on students' disengagement in higher and tertiary education by gender, socioeconomic status and other measures of vulnerability, and its impact on enrolment rates

The COVID-19 pandemic is transforming society in profound ways, often exacerbating social and economic disparities and inequalities in its wake (Engzell, Arun & Verhagen, 2020), and revealing, reinforcing, and catalyzing new social and cultural relations, laying bare inequalities and anxieties, discrimination and division (Leach et al., 2020). The pandemic has exposed "fault lines of inequalities", both in society and in higher education institutions

(Waruru, 2020), revealing the glaring inequalities of access along the differentiations of class, gender, ethnicity, religion, age, location and other social markers (Zeleza, 2020). An equality agenda therefore needs to be supported everywhere in order for the innovation needed to rebuild our society is done by and with all, and not only by those who will be able to afford it (Marinoni, van't Land & Jensen, 2020).

On the gender front, the UNESCO Global Education Monitoring Report 2020 titled 'Inclusion and Education: All means all,' indicates that just 11% of African countries had formulated comprehensive tertiary education equity and inclusion strategies. Noteworthy in the time of COVID-19 is that about 40% of low- and lower middle-income countries had not taken any measures to support learners at risk of exclusion during the crisis (Ligami, 2020). From the experience of the gender impacts of the Ebola virus disease in West Africa (2014-2016), the COVID-19 pandemic would affect women negatively and disproportionately both directly and indirectly due to gender power relations in decision-making (SPAU, 2020). According to Siwinski and Bilanow (2020), the COVID-19 pandemic has placed young women researchers in a particularly disadvantaged position as female scientists, and especially those with kids, who must share time between research and family duties. Furthermore, women often are active in areas of work that are the first to fall away in economic crises (AUC, 2020). As the Ebola outbreak demonstrated, when women have to give up studies or work during times of crises, they will be confronted with more challenges than men when trying to spring back after the crisis. In addition, the COVID-19 pandemic worsened the issue of gender-based violence, which increased by 25% as lockdown measures were implemented (AUC, 2020).

Furthermore, the unprecedented economic impact of the Covid-19 pandemic is pushing young people into exploitative and dangerous child labor. Many young people feel they have no choice but to work to help their families survive. Parkes et al. (2020) report findings from a qualitative study on how response measures during the early stages of the COVID-19 pandemic in Uganda have affected the lives of adolescent young people. The analysis showed how effects on young people of the lockdown varied according to gender, location, mobility and socio-economic background, amplifying inequalities and creating the conditions for multiple forms of violence. The Ugandan government and donors should increase monetary and other assistance to families to prevent further increases in poverty and child labor.

## 5.4 Facts based on investigation of the impact of COVID-19 in university governance and quality assurance and innovative measures adopted by higher and tertiary institutions

According to PwC's survey (Jeffery, 2020), the two highest ranking priorities for leaders at present are "scenario planning/risk management" and "cost containment/financial management". The coronavirus pandemic has enabled university leaders to embrace a more cost-conscious culture, by forcing them to have a greater level of granularity and understanding about where the money comes from and where it ends up. Among other issues, university leaders have focused their thinking on student recruitment and enrolment post-COVID-19. They have also been preoccupying themselves more by seriously looking at virtual learning and the other innovations, learning from the experiences brought about by COVID-19 that contact learning cannot stay the only mode of instruction.

## 5.5 Progress made on inter-university cooperation and partnerships due to the impact of COVID-19 in higher education in Africa

Many universities around the world have traditionally supported, in one way or another, partner institutions in poorer countries and regions, often in the Global South. Usually the aim is to strengthen the capacity of these partners to offer higher education of good quality, to underscore local development agendas and, along the way, contribute to the global sustainable development agenda. However, the COVID-19 crisis has forced universities everywhere into crisis mode overnight and meant that they have had to focus on keeping their own education and research running in the first instance, and capacity building efforts supporting far-away partners tended not to be part of the core concern (Aarts, 2020).

In addition, funding for collaboration efforts became less reliable as the ensuing economic crisis has affected international cooperation budgets. There is now recognition of the need to strengthen both local and regional collaborations, while leveraging the existing strong international collaborations that many institutions have (Lues, Padayachee & de Jager, 2020). The multi-, inter- and trans-disciplinary approach should foster closer collaboration between academia and university business entities and support the representation of academia on wider societal platforms. Further, partnership projects between universities and the private sector and civil society organisations are encouraged.

## 5.6 Status of the impact of COVID-19 on academic mobility in African higher and tertiary education

COVID-19 has had an impact on international student mobility at 89% of HEIs, with 60% of HEIs reporting that the pandemic has increased virtual mobility and/or collaborative online learning as alternatives to physical student mobility (Marinoni, van't Land & Jensen 2020). In Australia, for instance, a study predicts a drop of up to 50% in international student enrolment by mid-2021 (Maslen, 2020). Furthermore, the COVID-19 pandemic has come with a lot of uncertainties for the higher education sector and for internationalisation and mobility (Waruru, 2020), including bringing in new conditions such as COVID-19 vaccination compliance certificates targeted at Africa, possibility of racial discrimination (e.g. as seen in the "black lives matter" movement), with learners from poorer parts of the world that mainly act as sources of international students being seen as 'unsafe'.

Yıldırım et al. (2021) examined the relationship between the COVID-19 pandemic and international student mobility from an alternative perspective and to reveal descriptive findings. According to the findings obtained, the restrictions in physical student mobility and shutdown are observed as the biggest challenges that occurred in higher education during the COVID-19 period. On a global scope, international student mobility has experienced a major break. The collaboration between university and business has declined and this is even more discouraging for international students. The hybrid education model produced an intermediate solution in this period, although this has come with a new challenge in access of online platforms by university students in the developing countries.

# Chapter 6: Recommendations

## 6.1 Policy recommendations

Going forward, a number of recommendations may be made to the Government of Uganda in order to secure the future of higher education in the country during and post-COVID-19 pandemic. Support of the international community would be crucial.

i. **Learning delivery:** igration&

ii. In a study undertaken by IUCEA between May and August 2021 (Waithima et al, 2021) on the impact of COVID-19 pandemic on higher education in East Africa, a majority (over 50%) identified blended learning as their preferred future mode of learning. Only 9.3% would wish to continue with e-learning, while over 38% would prefer going back to in-person classes. Interestingly, it is the doctoral students who prefer e-learning the least followed by undergraduate students. Between undergraduate and masters' students where most of HEI students are, 41.3% of the undergraduate and 25.37% of master's student prefer physical classes. Therefore, universities need to be encouraged and facilitated to offer e-learning pedagogy as an integral part of career-long training for their academics.

iii. **Infrastructure:** COVID-19 has thrown into stark reality the imperatives to bridge the digital divide and to share resources across institutions, and higher education has a key role to play in advancing both of those goals, including by teaching digital skills and collaborating in postgraduate training and research. Findings from the UNESCO global survey (Yonemura & Lackner, 2021) provide a clear indication that the pandemic had dramatically underlined the need for better infrastructure and easier access to internet and digital devices. Uganda government, as well as individual institutions, should therefore invest heavily in IT systems that support the integration of online and blended learning in oredr to improve access to quality higher education.

iv. **Curriculum:** This crisis is offering a better moment to start implementing a more sustainable curriculum guided by the 2030 Agenda and the Sustainable Development Goals, to work on reducing inequalities and on offering equal opportunity when it comes to access to tertiary education, promoting true lifelong learning (Yonemura & Lackner, 2021). There is now opportunity to radically revise the curriculum of higher education institutions to suit remote, distance, online, and digital forms of delivery (Butler-Henderson et al., 2020). In Uganda, the National Council for Higher Education (NCHE) will now need to review its stance and approaches to quality assurance of open, distance and e-learning (ODeL).

v. **Private sector involvement:** The private sector/industry has a key (but often ignored) role to play in addressing the challenges facing higher education, including quality, access and the impacts of COVID 19. Non-state providers can contribute their own expertise in deploying context-specific solutions to address distance learning and other education-based challenges. Furthermore, private companies, particularly telecom companies, are increasingly partnering with HEIs and government to overcome the critical challenges by negotiating zero-rated access to specific educational and information websites. In order to facilitate their involvement, a facilitative environment and supportive policies need to be put in place to incentivize for public-private partnerships (PPPs). A roadmap for the implementation of PPPs in the higher education subsector or an

overall PPP policy for the education sector is necessary, in order to provide guidance and create confidence among investors.

vi. **Funding:** The financial resources can be a critical component in handling and recovering from acute crises (de Carvalho et al., 2016). Additional financial support to the education sector for managing the disruption caused by the COVID-19 pandemic has largely been from the national stimulus or special funds as well as from external sources, particularly from major international and regional development organizations such the World Bank Group, the African Development Bank Group, and the Global Partnership for Education, among others. A major gap exists, however, in financing and sustaining a solid mechanism for the education sector in Uganda to manage crises like COVID-19 and to guide remote education on a mid- to long-term perspective. Availability of emergency relief funds in the form of soft loans or private donations will help students with daily expenses in order to continue their studies. In order to align funding and activities to support government response plans, the Ministry of Education and Sports, with support from UNICEF and NGOs, has quickly developed an Education Preparedness and Response Plan for COVID-19, to which donors may align their funding.

vii. **Research:** More studies should be undertaken on proper mitigation measures for such pandemics, including the search for vaccines.

## 6.2 National/best practices for up scaling including clear identification of success factors and inhibiting factors to be addressed

Routine, systematic screening of travelers and at-risk persons, and thorough contact tracing will be needed for Uganda to maintain epidemic control. This is because the first 54 case-persons with SARS-CoV-2 infection in Uganda primarily comprised incoming air travelers with asymptomatic or mild disease. Disease would likely not have been detected in these persons without the targeted testing interventions implemented in Uganda. Transmission was low among symptomatic persons and nonexistent from asymptomatic persons. Some considerations may be made from the foregoing pandemic, and how it has been addressed.

1. **Coordination:** The COVID-19 pandemic has highlighted the importance of rapid and well-coordinated responses to a global situation that has put pressure on every aspect of the health system, education, research, and practice (Lackie et al., 2020). Poor emergency responses were seen in the beginning of the outbreak (Muftahu, 2020), with some national governments underplaying the severity of the pandemic.

2. **Context-specific responses:** From the responses, it is clear that the strategy for dealing with COVID-19 is context-specific as every country and institution is different (Nkhoma, 2020). In their report, the African Union Commission (AUC, 2020) found some striking differences on how COVID-19 is behaving in different countries. For instance, in Italy, there had been strong curtailing of social interactions yet COVID-19 mortality still remained high. In contrast, Japan had some of the earlier cases, but the mortality remained low despite not having adopted some of the more restrictive social isolation measurements. These puzzling differences have been adjudicated to different cultural norms as well as differences in medical care standards. Therefore, individual countries and/or institutions need to develop their own ways to deal with the pandemic (AUC, 2020), including clear social justice principles of accessibility, inclusivity, flexibility, equitability and connectivity (Zeleza, 2020). Uganda has been praised for having strict measures that ensured low spread as compared to its neighbours.

3. **Need to harmonize efforts:** Considering the outbreak does not respect borders, the inability of one country to fight and contain the virus will negatively impact its neighbours over time, thus threatening livelihoods and the growth of economies (AUC, 2020). Hence, it was necessary that Africa quickly and effectively develops a coordinated response to collectively fight the impact of the pandemic on the continent. Consequently, in addition to the policy actions at the national level to contain the spread of COVID-19 and mitigate its socioeconomic impact, the African Union has been at the forefront of the fight against the pandemic by coordinating the activities and raising resources to strengthen the continental response to COVID-19, maintain economic activities and revive African economies.

4. **Role of RECs:** There have also been significant contribution of sub-regional, continental and international bodies in supporting HEIs and governments to respond to the impact of the pandemic through training, collecting data and monitoring the impacts of COVID-19 on higher education, hosting resource pages, recommending policies, and providing support materials for governments and other higher education stakeholders (Agyapong et al. 2020, p. 16). Examples include the Inter-University Council for East Africa (IUCEA), and other international/development partners such as UNESCO, the International Association of Universities (IAU), the World Bank, among others.

5. **Promoting intra-Africa mobility:** Now is the time for Africa to build internationalisation-at-home, by crafting relevant policies and programmes, since the COVID-19 crisis calls for enhancing of intra-African mobility as well as internationalizing higher education curricula to attract international students globally (Waruru, 2020).

6. **Social/psychological support:** In an unprecedented situation as a result of COVID-19 pandemic, social support system may provide a valuable relief to those severely affected by the crisis (Abdullah, Husin & Haider, 2020). The IUCEA study revealed that over 15% of students had either contemplated or attempted suicide, 9% had resulted to drug abuse, 13.3% to alcoholism and over 20% resulted to sex. These social vices make worse an already compromised learning environment. Some of the affected groups may require psychological help or counseling in order to relieve them from mental or emotional crisis that may lead to severe stress and depression. It is particularly important for various parties involved in the crisis to react resiliently and develop suitable solutions to overcome the undesired situation. Stress in teaching online using technology (or technostress) is stress caused by the use of ICT (Christian, Purwanto & Wibowo, 2020). Accordingly, Sawalha (2015) has called for an organizational culture which is open, trustful, and learning-oriented.

7. **Continuity:** There is need for strategies to support alternative/informal learning to continue while schools are closed. The closure of schools inevitably makes learning more challenging, but there are many practical ways to keep students learning even in these circumstances. Different approaches will be required for different communities, students and local contexts, but support from development partners is still required to supplement government efforts.

# Chapter 7: Conclusion

The Government of Uganda has been applauded across the continent for its significant role in prevention and response towards the COVID-19 pandemic, as evidenced by the number of confirmed cases, discharged and deaths in relation to its counterparts in the region. This is attributed to the surveillance and timely response to identified cases. Recent research points to both positive and negative impacts on education systems and affected learners. On the positive side Uganda, as in deed many countries, is using their COVID-19 response to address strategic education priorities, including improving infrastructure and addressing the needs of vulnerable groups. However, the inadequate resourcing for education during this crisis is causing significant disruption in education systems and risks long-term damage – including the closure of low-fee private schools that serve low-income families, leading to learner displacement and a loss of employment for teachers. The need to review the emergency plan in relation to challenges identified and resources available is paramount in consolidating the gains achieved by the health sector.

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4
QUALITY
EDUCATION

Sustainable
Development
Goals