

Impact of COVID-19 Measures on Kenya's Education Sector

Tabitha Kiriti Ng'ang'a

Working Paper - COVID-19_011

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By

Tabitha Kiriti Ng'ang'a

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List of abbreviations and acronyms

| | |
|--------|--------------------------------------------------------------------|
| ASALs | Arid and Semi-Arid Lands |
| BOM | Boards of Management |
| CBC | Competency-Based Curriculum |
| COMESA | Common Market for Eastern and Southern Africa |
| CS | Cabinet Secretary |
| EAC | East African Community |
| ECDE | Early Childhood Development Education |
| FGD | Focus Group Discussions |
| FGM | Female Genital Mutilation |
| GBV | Gender-Based Violence |
| GDP | Gross Domestic Product |
| HELB | Higher Education Loans Board |
| ICT | Information, Communication and Technology |
| IMF | International Monetary Fund |
| KCPE | Kenya Certificate of Primary Education |
| KCSE | Kenya Certificate of Secondary Education |
| KDHS | Kenya Demographic and Health Survey |
| KNEC | Kenya National Examinations Council |
| KNBS | Kenya National Bureau of Statistics |
| MDAs | Ministries, Departments and Agencies |
| NACADA | National Authority for the Campaign Against Alcohol and Drug Abuse |
| NGOs | Non-Governmental Organizations |
| PCR | Primary Completion Rate |
| PPEs | Personal Protective Equipment |
| PSTR | Primary to Secondary Transition Rate |
| SDGs | Sustainable Development Goals |
| UK | United Kingdom |
| UN | United Nations |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNFPA | United Nations Population Fund |
| US | United States |
| WEO | World Economic Outlook |

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Prof. Tabitha Kiriti Nganga

Executive summary

The measures taken to combat COVID-19 pandemic were sudden and unexpected. The long closure of schools, though intended to combat COVID-19, may have led to unintended consequences on the education sector. This study analyses the impact of COVID-19 measures on the education sector. Specifically, the paper investigates the impact of the long closure of schools on private and informal community schools; the success of the online/remote learning; the impact of the long closure of schools on teachers, boys and girls; and investigates the learning institution's level of preparedness to implement COVID-19 protocols when they reopened in October 2020.

Data sources

The study uses secondary data sourced from documented literature using electronic databases, grey literature, reference harvesting and discourse analysis. The secondary data were sourced from the Ministry of Education, African Union Heads, International Monetary Fund, Kenya National Bureau of Statistics, National Treasury and Planning, Republic of Kenya, UNESCO, Kenya Private Sector Alliance (KEPSA), Minet Insurance Company; National Crime Research Centre; United Nations, United Nations University- World Institute for Development Economics Research (UNU-WIDER), World Bank, National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA), Government of Kenya policy documents, civil societies, non-governmental organizations and faith-based organizations. Additional literature and data were sought from other relevant institutions, which included other government ministries, departments, and autonomous agencies. We also analyzed social and mainstream media reports on the COVID-19. Secondary data were complemented with primary data.

Methodology and process

To gather information on the impact of COVID-19 on education, webinars were used to gather data on students, parents, teachers, owners of private education institutions and policy makers. Online discussions with other researchers doing work-related to this topic were held and we exchanged information and learnt from one another. An electronic questionnaire was administered to students, both male

and female, parents, teachers, owners of private education institutions, and policy makers. Primary data were also gathered through Focus Group Discussions (FGDs) with parents, teachers, and education administrators. Oral testimonies were also recorded from the participants. Information was also gathered from key informants on education. FGDs were held under strict Ministry of Health COVID-19 protocols in open spaces, with participants sanitized and provided with masks.

Guided by circumstances facing the country at the time this study was conducted (curfew, COVID-19 pandemic), the author found it convenient to use purposive sampling. Purposive sampling generally helps a study to answer research questions by focusing on particular characteristics of a population of interest. In the case of this study, everybody in Kenya, male, female, young or old and people of all tribes and nationalities had in one way or another been affected by the COVID-19 measures. The study oversampled Nairobi since it accounted for 43.3% of COVID-19 cases in Kenya. The first COVID-19 measures taken by the Government closed off the Nairobi Metropolitan and people could not leave its boundaries and outsiders could not enter the Metropolitan. The effects of the COVID-19 measures were therefore expected to impact more the people living in the City and its surroundings. It was also easier to conduct and use an electronic questionnaire and conduct Focus Group Discussions during the day and be home early in the city without breaking curfew hours.

A total of 122 electronic questionnaires were sent by email and 61 participants responded, giving a response rate of 50%. The respondents to the electronic questionnaire were chosen from a list of emails from the author's emailing list, since physical face to face interviews were hard to conduct at that time as many people were working from home.

Information was also sourced from 12 participants in FGDs from Kawangware, Kibera and Mathare, all informal settlements in Nairobi; the 20 key informants included heads of learning institutions, Ministry of Education officials, Education in Emergency, private owners of learning institutions, and consultants in the Ministry of Education; and 10 students. The students were 2 from public universities, 2 from public secondary schools in urban areas and 2 from rural areas. There were 2 students from private secondary schools in urban areas and 2 from rural areas.

Village and church elders from the 3 informal settlements were used to identify the FGD participants. Participants were asked how the measures taken by the government to combat COVID-19 had impacted on them depending on whether they were students, parents, owners of private schools and administrators of public schools, including community schools. Questions were also asked on whether they had the technology for remote learning and whether the students learnt during long schools' closure.

Key informants were asked questions on government funding of public schools and their opinion on the level of preparedness of schools to implement the COVID-19 protocols when schools opened at the beginning of October 2020.

The primary data were thereafter transcribed, grouped into themes, analyzed and then presented in narrative to complement the secondary data, which is presented in tables and graphs.

Limitations of methodology

COVID-19 was declared a pandemic in March 2020 and, therefore, very little had been documented on its impact. However, some institutions such as KEPSA had done rapid surveys in March and April 2020 to gauge the impact of COVID-19 measures. Some researchers such as Kathule (2020) had also done some work on the impact of COVID-19 on education. However, both studies were done in early to mid-2020 when it was not clear when schools would re-open. The Kenya National Bureau of Statistics - KNBS (2020) also did a study on the socio-economic impact of COVID-19 on households in May 2020. Some of the findings of these studies are compared with the results of this study. Kenya had not had the experience of a pandemic and therefore the Ministry of Education did not have data that could be used to show how the measures had impacted on the education sector. The Ministry of Health was releasing information on the pandemic daily, while the Ministry of Education was issuing guidelines on how learning would take place in response to the measures that were being given by the Ministry of Health. There was, therefore, very little data on the impact of the pandemic or impact of measures to combat it that were in existence. To overcome this challenge, this study collected primary data from a sample of Kenyans who gave their version of how the COVID-19 pandemic measures had impacted them. Key informants also gave valuable information on how these measures had impacted on the education sector. Considering the small sample size, these results should be interpreted with caution and the impact also taken as a correlation and not direct causation. Secondary data, where available, were used for triangulation of the results from the small sample.

Lessons Learnt

- Although government allocation of funds to public schools comprises a large proportion of its budget, it still remains below the recommend 20% of the national budget.
- Although the government allocated Ksh 7 billion to support private/community schools, it took long for this money to reach the schools that were facing financial difficulties.
- The permanent closure of many private schools led to more overcrowding of existing public schools.
- Long closure of community schools exposed girls and boys to vices such as drugs and alcohol abuse that exist in informal settlements.
- In the education sector, the existing policy of 100% transition is a good idea since it ensures equality of the right to education to all. However, the level of bureaucracy that exists in disbursement of funds to public schools to meet their needs such as for more infrastructure, hiring of more teachers and many others leads to delay

and is reflected in the lack of preparedness of these schools when they re-opened in January 2021 .

- Very little online teaching and learning took place during the pandemic as the resources and equipment were not available.
- A number of students did not report back to schools when they re-opened as the long closure of schools disrupted the academic calendar and some students got engaged in other business not related to academics, while others especially girls got pregnant or got married.
- There was an increase in the number of adolescent pregnancies in Kenya, attributed to the long closure of schools due to COVID-19 measures.
- COVID-19 measures led to an increase in the number of early child marriages in Kenya.
- Teachers were also adversely affected by the COVID-19 pandemic as a number of them lost their jobs, especially those in private schools and those in public schools employed by Boards of Management (BOMs). A number of them also contracted COVID-19 while others succumbed to the disease.

Implications for policy makers

Short-run

Strengthen curriculum: The Kenya Institute of Curriculum Development (KICD) needs to strengthen the curriculum and school syllabus that addresses child rights, reproductive health and sex education in schools to empower children to speak out against violations of their rights and other abuses.

School-based child friendly gender-based violence (GBV) reporting mechanism: School managements need to establish a school-based child friendly GBV reporting mechanism.

Medium-term

Guidance and counseling: Considering that students and teachers lost some of their own due to COVID-19, and that some students had already entered the world of work without restrictions as they face in a school setting, there is need to have well-trained guidance and counseling staff in schools to help both teachers and students face the challenges that they may face as they try to adjust to school life. There is also need for education sector agencies to deepen the existing structures of guidance and counseling with a special focus on online guidance and counseling

targeting educational, vocational and personal/social life of learners at all levels of education service.

Out of school programmes: The Department of Child Services and Department of Culture needs to formulate, plan and implement out-of-school programmes for children across the country to keep them occupied.

GBV safe houses: The Ministry of Labour and Social Protection and non-state actors need to urgently establish safe houses for children who experience GBV and other forms of violations.

Regulation on sale of alcohol: There is need for strict regulation of the sale of alcoholic beverages and drinks, and drugs.

Work life balance: There is need to come up with work/life balance programmes for parents aimed at improving care and support of their children during this pandemic, and any other that may come in the future.

Long-term

Address level of bureaucracy: The government needs to increase the infrastructure in public schools to take care of those students who used to study in private schools that have now closed permanently. This can be done by addressing the level of bureaucracy that leads to delays in disbursement of funds allocated to public schools.

Alternative funding model of private schools: Private schools need to look for an alternative funding model instead of only relying on fees paid by students. Private schools complement government efforts in providing education. Therefore, the government should treat private schools the same way as small and medium enterprises in terms of support.

Community schools: In case of another long closure due to a pandemic, it is important for the government to take over community schools and continue protecting the children in these schools to prevent them from being exposed to the vices that exist in informal settlements. As it is now, most of these community schools rely on donor funding.

Remote/online teaching and learning: There is need to increase electricity, and internet connectivity to all households in Kenya to increase the level of online/remote learning not only during a pandemic but also in normal times. At the same time, the government should revisit the idea of every child having a tablet, since this study found that very few students could access online study due to lack of smartphones.

The pandemic has presented an opportunity for schools to embrace online learning to complement in-person classroom learning and to train teachers and students in digital skills in the fast-changing world of technology.

Conclusion

COVID-19 adversely affected the education sector, especially through measures that the government took to combat the spread of the virus. The study exposes the need for more expenditure on the education sector to implement the COVID-19 protocols. The long closure of schools led to loss of learning, increased dropout of students/pupils, increased cases of GBV, early pregnancies, early child marriages, permanent closure of some private/community schools and exposed the inequality in availability of infrastructure and equipment that would have helped online learning.

1. Introduction

Since the first Kenyan COVID-19 case was reported on 12th March 2020, Kenya had tested 1,183,212 people by 31st January 2021. The cumulative confirmed cases, cumulative death cases and the cumulative recovery cases have been increasing but at a slower rate than in the first quarter of 2020. As of 24th February 2021, Kenya had 104,500 cumulative confirmed cases of COVID-19. The number of fatalities was 1,837 while that of recoveries amounted to 83,391 as shown in Table 1.

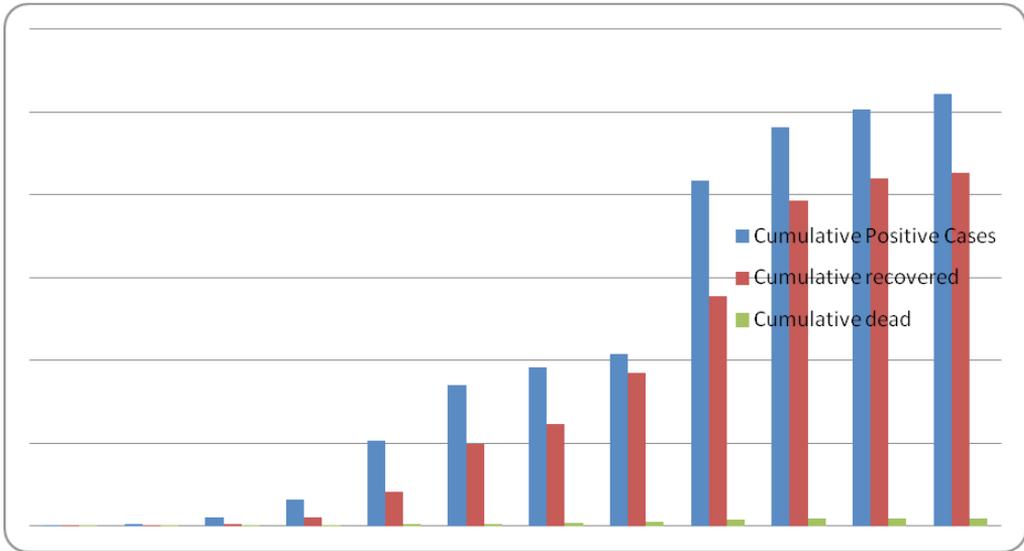
Table 1: COVID-19 cumulative confirmed, recovered and death cases in Kenya

| Date | Months | Cumulative positive cases | Cumulative recovered | Cumulative dead |
|------------|-----------|---------------------------|----------------------|-----------------|
| 3/31/2020 | March | 59 | 1 | 1 |
| 4/30/2020 | April | 396 | 144 | 17 |
| 5/31/2020 | May | 1,962 | 478 | 64 |
| 6/30/2020 | June | 6,366 | 2,013 | 144 |
| 7/31/2020 | July | 20,636 | 8,165 | 341 |
| 8/31/2020 | August | 34,057 | 19,688 | 574 |
| 9/30/2020 | September | 38,378 | 24,740 | 707 |
| 10/31/2020 | October | 41,619 | 36,963 | 981 |
| 11/30/2020 | November | 83,316 | 55,610 | 1,452 |
| 12/31/2020 | December | 96,251 | 78,737 | 1,667 |
| 01/31/2021 | January | 100,773 | 83,855 | 1,755 |
| 24/02/2021 | February | 104,500 | 85,391 | 1,837 |

Data Source: <https://github.com/GuangchuangYu/nCov2019>

From Table 1, the cumulative number of positive cases, death and recoveries has been on an upward trend since March 2020 to date. As of March 2020, the fatality rate of COVID-19 was 1.69% and was at its highest in April 2020 with a fatality rate of 4.29%. As of 31st October 2020, a total of 41,619 cases had been confirmed with 981 deaths. As at 31st December 2020, 96,251 cases had been confirmed with 1,667 persons succumbing to the illness. Figure 1 shows the monthly reported cases of COVID-19 in Kenya up to 24th February 2021.

Figure 1: Trend of COVID-19 cumulative confirmed, recovered and death cases in Kenya

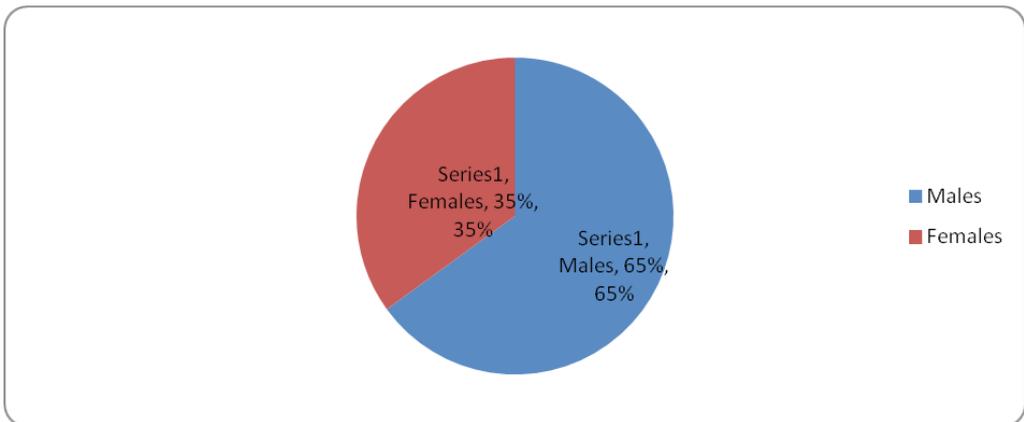


Source: Daily COVID-19 updates by Ministry of Health Kenya (2020) as of 24th February 2021

The total number of recoveries and discharges for COVID-19 was 85,391 as of 24th February 2021 (Ministry of Health, 2021). Annex 1 shows the distribution of the COVID-19 cases by county on the 16th of February 2021. Nairobi had the highest proportion of COVID-19 cases, accounting for 43.3% of the total number of positive cases. Nairobi is followed by Mombasa and Kiambu, which accounted for 8.8% and 6.4% of all COVID-19 cases in Kenya.

The rate of infection seems higher for males than for females, with 34,237(65%) males and 18,376 (35%) females infected as at 29th October 2020 as shown in Figure 2.

Figure 2: COVID-19 positivity rate by gender as at 29th October 2020



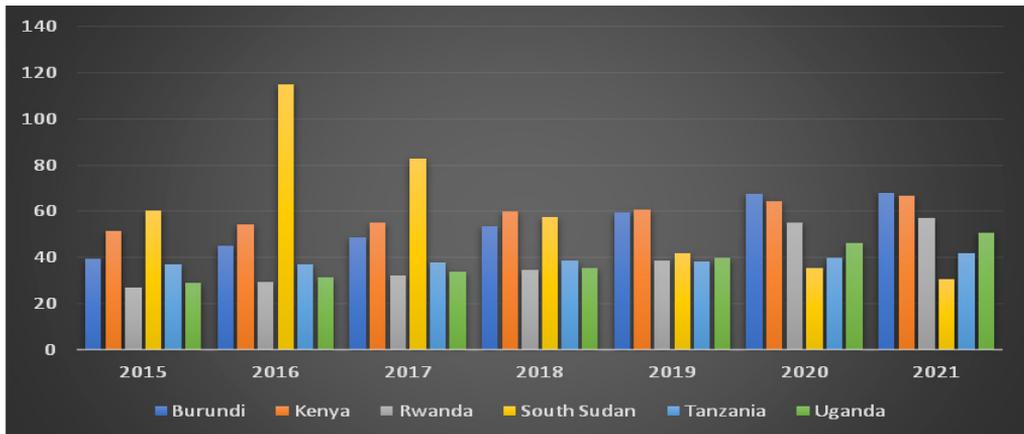
Kenya Government's response to COVID-19

Since the reporting of the first COVID-19 case in Kenya, many sectors have been adversely affected, especially by the measures the Government of Kenya (GoK) took to contain the spread of the virus. Just like the rest of the world, the Kenyan government closed all learning institutions countrywide on 16th of March 2020 to combat the spread of COVID-19. Learning was supposed to be offered online. To make sure that learning continued in schools despite the closure, the Government of Kenya through the Ministry of Education launched certain education programmes broadcasted through television or radio, and on YouTube. Also, copies of textbooks were made available for all students on the Kenya Education Cloud. The Government also partnered with Telkom Kenya and Kenya Civil Aviation Authority who established Google's Loon Balloons carrying 4G base stations all over the Kenyan airspace. It was not until the 4th of October 2020 that the Government announced the return to school of classes 4 and 8 in primary schools and Form Fours in secondary schools.

Before the schools re-opened, the Kenya Government in the budget read in June 2020 had already allocated money to the education sector to meet infrastructural needs and hiring of more teachers, although the money was not released to the learning institutions until January 2021.

Performance of the economy

Africa's Gross Domestic Product (GDP) growth of 3.2% by 2020 is now forecast to fall to -0.8% (IMF, 2020). This is due to the imposed partial lockdown of the economy triggered by the COVID-19 outbreak. The virus led to disruption in various industries, especially the tourism and hospitality industries. Most East African Community (EAC) countries saw demand for increased social support for their respective populations due to vast job losses by many low-income earners who now depend heavily on their governments for support. With most of the EAC countries facing hefty external debts, they lack adequate resources to mitigate COVID-19 effects on their economies. Figure 3 shows the EAC countries with their respective debts as a percent of their annual GDPs.

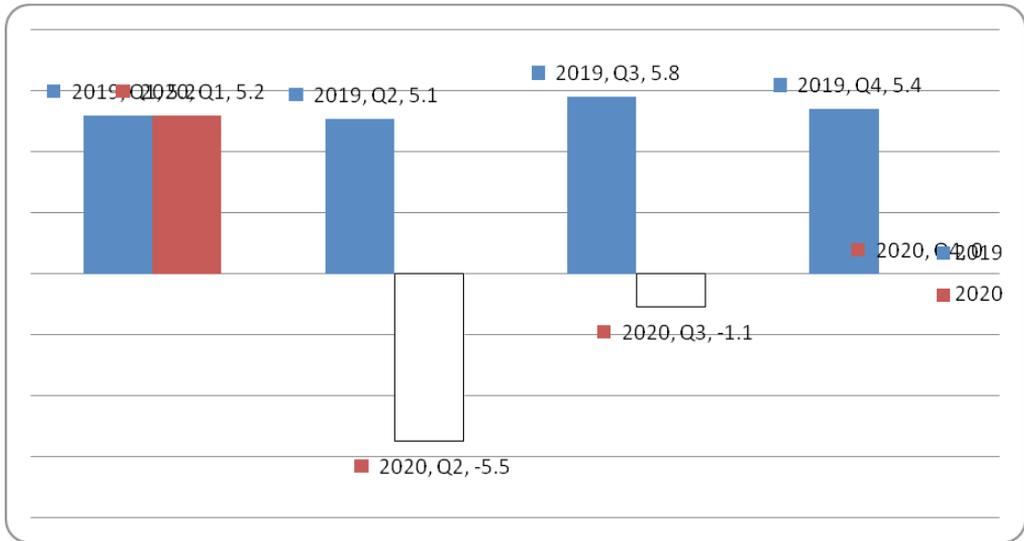
Figure 3: EAC government debt as a percentage of GDP

Source: International Monetary Fund (2020)

In Kenya, projected GDP growth rates dipped from 5.7% to 1% in 2020 alone. This decline has been attributed to decrease in tourism activity, export sales, and the disruption in the supply chain. Tanzania and Uganda have shown similar trends, with their GDP growths declining from 3.5% to 2.0%, respectively. However, Tanzania had an expanded market for mineral exports, especially gold, but this was only in the third quarter of 2020 (United Nations Economic Commission for Africa - UNECA, Trade Mark East Africa - TMEA and African Economic Research Consortium-AERC, 2021). The Ugandan economy also faces disruption of supply chains and a loss of global demand for its goods (Deloitte, 2020).

Kenya's external public debt stood at 51.4% of total debt stock of Ksh 7.1 trillion in September 2020 (Tamale and Gathii, 2021). Research by Babu et al. (2014) and Tamale and Gathii (2021) show that external debt has a negative effect on per capita GDP growth, as a high proportion of GDP is spent on repaying debt. COVID-19 found Kenya when its economic growth was on a decline, having fallen from 5.8% in the fourth quarter of 2019. This declined to 5.2% in the first quarter of 2020. When COVID-19 was declared a pandemic in March 2020, Kenya's economic growth rate declined drastically to -5.5%. However, the economy shows an improvement in the third quarter of 2020 as shown in Figure 4.

Figure 4: Kenya quarterly GDP Growth rate 2019-2020



Source: <https://www.statista.com/statistics/1181083/quarterly-gdp-growth-rate-in-kenya/>

The decline in GDP growth in the second quarter of 2020 could be attributed to the decline in economic activity because of measures taken by the government to combat the spread of COVID-19. The slow economic growth led to tightening of financial conditions in Kenya, with most of the financing directed to measures to curb COVID-19 spread, coupled with a reduction of government revenue due to weakening in economic activity, tax reliefs to vulnerable households, and an increase in COVID-19 related spending needs (World Bank, 2020a).

Education plays an important role in the development of a country as it provides the knowledge and skills to the population, and shapes the personality of the youth of a nation (Idrisa et al. (2012). Education leads to innovation and creativity through acquisition of skills to operate with different technologies. Most of the learning and skills acquisition are acquired through attending schools and other learning institutions. Learning institutions also provide livelihoods to those who work there, and those who privately own them. However, when COVID-19 was declared a pandemic, all learning institutions were ordered closed. This study investigates the impact of COVID-19 measures on the education sector in Kenya.

Education funding

Kenya, basic education is largely financed by National and County Governments, private sector, faith-based organizations (FBOs), non-governmental organizations (NGOs) and donors.

In the financial year 2019/2020, the government allocated Ksh 494.8 billion to the education sector, which was 17.0% of total government budget. Free Day Secondary Education was allocated Ksh 59.4 billion, Ksh 13.4 billion for Free Primary Education, Ksh 3.2 billion for recruitment of additional teachers, Ksh 2.0 billion for school feeding programmes, Ksh 4.0 billion to Kenya National Examinations Council (KNEC) for examination fee waiver, Ksh 12.9 billion for Higher Education Loans Board (HELB), Ksh 97.4 billion for university education and Ksh 23.3 billion for Technical, Vocational Education and Training (TVET) institutes (The National Treasury and Planning, 2019).

In the financial year 2020/2021, the education sector was allocated Ksh 505.1 billion, which was 18.1% of total government budget. This was an increase of 1% compared to the 2019/2020 financial year. The government allocated Ksh 2.4 billion for the recruitment of 10,000 teacher interns to support the 100% transition and employment creation, Ksh 2.1 billion for rehabilitation and construction of classrooms, Ksh 1.9 billion to cater for fabricated desks for secondary and primary schools, Ksh 0.7 billion for capitation and improving infrastructure in low cost boarding schools in arid and semi-arid lands (ASALs) using local labour and Ksh 0.3 billion for hiring of 1,000 Information, Communication and Technology (ICT) interns to support digital learning in public schools. The government also allocated Ksh 94.9 billion for university education, Ksh 59.4 billion for Free Day Secondary Education, Ksh 16.8 billion for Higher Education Loans Board, Ksh 12.4 billion for Free Primary Education, Ksh 6.3 billion for construction and equipping of technical training institutes, Ksh 4.0 billion to Kenya National Examinations Council (KNEC) for examination fee waiver, and Ksh 2.0 billion for recruitment of an additional 5,000 teachers (The National Treasury and Planning, 2020). This marginal increase in funding to the education sector still fell short of the recommended 20% of the total government budget. The Government of Kenya later on allocated Ksh 7 billion to prop up private schools that had also been affected by COVID-19 measures.

2. Context

Education is an important ingredient for human capital development. It trains manpower for all institutions, whether private or public. Learning institutions comprise not only academic institutions but also training institutions such as those for teacher training, those training health personnel, information, communication and technology institutions, polytechnics, and many others. The closure of learning institutions meant that production of manpower in all sectors of the economy would be adversely affected. This study focuses on academic institutions, including primary and secondary schools, and universities.

Status and structure of the education system in Kenya

Before 2019, the structure of the education system started with Early Childhood Development Education (ECDE) or pre-school and covered two years followed by 8 years of primary education, 4 years of secondary education and 4 years of undergraduate university degree or what was described as 8-4-4. However, starting 2019, the 8-4-4 is being replaced by the Competency-Based Curriculum (CBC), which is divided into three levels: early years' education, middle school education and senior school, which is now structured as 2-6-3-3-3 system (Republic of Kenya, 2018).

The Ministry of Education National Strategic Plan for the year 2018 to 2022 outlines the functions of the National Government on education and training as: education policy, standards, curriculum, examinations, granting of university charters, universities, tertiary educational institutions, institutions of research, higher learning, primary schools, secondary schools, special education institutions and promotion of sports and sports education. The functions of the County governments in relation to education are: pre-primary education, youth polytechnics, home craft centres, farmers training centres and childcare facilities (Republic of Kenya, 2018).

Education in Kenya is offered by the government, non-government organizations, faith-based organizations and the private sector. In 2019, there were 23,286 and 9,058 public and private primary schools, respectively, and 8,933 public and 1,530 private secondary schools. At the university level, there were 31 public and 32 private universities (KNBS, 2020).

In 2020, private schools comprised of 9,400 and 1,600 private primary and secondary schools, respectively, with a student population of at least 2.6 million. A

survey done by the Kenya Private Sector Alliance (KEPSA) in April 2020 reported that Tourism, Education and Sports/Arts/Creative sectors perceived themselves as most hit by the COVID-19 measures, with 95%, 93% and 90%, respectively, reporting very high or high impact (KEPSA, 2020).

In Kenya, primary school education is compulsory but secondary and university education is optional. Private and informal community schools rely on fees or donations to run their institutions. Public primary and secondary schools are heavily subsidized through government capitation. At the university level, students usually apply for loans from the Higher Education Loans Board (HELB) for both their tuition and upkeep. This study investigates how the long closure of learning institutions to curb the spread of COVID-19 impacted private and community schools.

Public primary schools are overcrowded due to the compulsory nature of basic education, with 100% transition from primary to secondary school. In 2019, almost 200,000 more students transitioned to secondary school compared to 2018, hence increasing the enrolment of both boys and girls in secondary school (KNBS, 2019).

Before the closure of learning institutions, learning activities especially in primary and secondary schools used to be conducted on a face to face basis in all education institutions. However, open and distance learning was still in use in some cases, especially in institutions of higher learning, to cater for those offering education as a degree programme. This was, however, blended with physical interaction with tutors where students would spend some time in the institution for a short while to do exams. When COVID-19 was declared a pandemic and learning institutions closed, learning was supposed to continue but remotely online, which required the use of gadgets such as computers and smartphones, and availability of electricity and internet. This study investigates whether any online or remote learning took place during this period.

The gains achieved in increasing enrolments for both boys and girls could have been eroded due to the long closure of schools. Pupils'/students' morale and motivation to go back to school could have been reduced after having been engaged in other activities not necessarily related to academics. The reasons for dropping out of school could be attributed to economic, social-cultural and school environment factors such as poverty, child labour, pregnancy and early marriages (Republic of Kenya, 2020a). Free primary and secondary school is supposed to ensure that pupils remain in school. In addition, the Government of Kenya has a policy that allows girls who have given birth to return to school. Chiefs are given the task of following children, both boys and girls, who for one reason or another fail to report back to school. However, most girls who fall pregnant and give birth usually drop out of school due to the stigma attached to this, and most of them end up getting married or remaining as single parents. Boys also drop out of school and engage in activities such as construction, *boda boda* business, avocado picking, coffee picking, and many others. This study investigates whether both boys and girls reported back to schools when they reopened in October as a result of the long closure caused by COVID-19 pandemic.

The closure of learning institutions for nine (9) months gave them time to prepare for eventual re-opening with enough infrastructure to cater for the COVID-19 protocols

such as provision of water points with soap to maintain high levels of hygiene, social distancing for students, and hiring of teachers and other staff. This would require mobilizing or providing resources to put up more infrastructure such as laboratories, classrooms, and hiring more teachers and support staff. This study also investigates whether schools were well prepared to implement COVID-19 protocols when they reopened in October 2020.

Literature review

Kenya's external public debt stood at 51.4% of total debt stock of Ksh 7.1 trillion in September 2020 (Tamale and Gathii, 2021). In a study of the effect of external debt on per capita GDP rate of the EAC countries, Babu, et al. (2014) found that external debt has a negative impact on GDP per capita growth rates of these countries and the authors recommend a reduction of external debt burden of the EAC countries to help promote rapid economic growth.

According to Doyle (2020), at least US\$ 210 billion would be cut from education budgets in 2021 owing to declines in GDP. Pressure to reallocate scarce resources to health and social safety nets might cut 5% from education budgets amounting to a total loss of US\$ 337 billion in education spending. UNESCO (2015) recommends that 4% to 6% of national GDP or at least 15% to 20% of a country's national budgets is allocated to basic education. However, due to budget constraints, this may not always be the case where domestic revenues are not enough to meet all the budget needs. Allocation of resources would determine how well-prepared public schools would be to implement COVID-19 protocols before schools reopened.

APHRC (2015) found that, on average, almost half of the children in five (5) major urban areas such as Nairobi, Mombasa, Kisumu, Eldoret, Nyeri and Nakuru were enrolled in low fee private schools. In urban informal settlements, there are schools owned by non-governmental organizations, communities and individuals that complement the public primary and secondary schools. The well-endowed parents take their children to private schools that have the facilities and are less crowded. Private schools bridge the supply gap, hence reducing overcrowding in learning institutions. The long closure of learning institutions could have impacted both private and informal community schools, since they rely on fees or donations to run their institutions.

United Nations (2020: 2) reports that the "COVID-19 pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents". The report argues that closure of learning institutions has impacted 94% of the world's student population.

Tumwesige (2020) contends that in Uganda, low incomes because of the prolonged lockdown could mean that many children would not return to schools when they reopen, while the Republic of Kenya (2020a) reported that closure of schools accompanied by restricted movement in areas facing challenges of spaces, such as informal settlements, may worsen use of pornographic materials, drugs and substance abuse, increased cases of rape, gender-based violence (GBV), including defilement of children.

A study by Save the Children (2020) in Dadaab Refugee Centre found that GBV had intensified because of COVID-19 measures. The gender-based violence and abuse being experienced included: domestic violence (44.1%), sexual harassment (40.9%), defilement cases (18.3%), abduction and kidnapping (19.4%), Female Genital Mutilation (FGM) (20.4%), forced marriage (8.6%) and grooming (2.2%).

When students are not occupied and their movement is curtailed, they are likely to experiment on drugs or alcohol. According to the National Authority for the Campaign Against Alcohol and Drug Abuse - NACADA (2020), 7.2% of primary school children and 23.4% of secondary school students had tried alcohol while 3.8% of pupils in primary and 9.3% in secondary had tried drugs during the lockdown. According to the NACADA report, the most common periods when drugs are abused are during school holidays (30%) and on the way from school (22%). 29.3% of the students obtain alcohol or drugs from home. These figures could have increased during the pandemic as children were idle and therefore had all the time to experiment on alcohol to pass time as they could buy it online.

In rural areas and in informal settlements, children take up household responsibilities while not in school. Save the Children (2020) found that 28.4% of learners had taken up new responsibilities in the household because of COVID-19. These responsibilities included caring for sick family members/relatives (29.6%), caring for siblings or other children (66.2%), domestic work (31%), child marriage (1.4%), sexual exploitation (2.8%) and fetching water (1.4%).

According to Bhatia et al. (2020), at least a third of the world's school children (463 million) were unable to access remote learning when COVID-19 led to closure of their schools. This is due to existing regional inequalities in access to income and technology required for remote learning. For one to access remote learning, they would need to have access to a television, radio, internet, and the availability of curriculum delivered across these platforms during school closures. Even when children have the technology and tools at home, they may not be able to learn remotely through these platforms due to competing factors, such as lack of well-defined infrastructure systems, lack of adequate preparation for the sudden change, having both students and instructors at home at the same time, lack of internet connectivity, students preparedness, cost of teaching and preparation for online teaching, online assessment and evaluation nightmare, pressure to do chores, being forced to work, and electricity disruption (UNICEF, 2020b). Save the Children (2020) reported that 78.5% of learners could not have access to relevant educational materials while 88.6% did not have a radio.

Save the Children (2020) found that 18% of the learners interviewed in the Dadaab refugee centre were not learning at home due to lack of learning materials (86.7%), engagement in household duties (8.9%) and 4.4% reported that they were not interested in learning at home.

The KNBS (2019) report on population census shows that only 50.4% of Kenyan households have access to electricity and 19.3% have access to solar power. At the same time, smartphone penetration is only 27%. Uganda has 63.9% mobile penetration and only 70.9% individuals own a mobile device, and only 16.0% own a

smartphone. This low access to power and low smartphone penetration may have made many students not able to access online platforms for learning during COVID-19 pandemic. Questions also remain about how to harmonize semesters and academic calendars, as some programmes were successfully implemented online, while others could not be implemented.

Josephson, Kilic and Michler (2021), in their study on socio-economic impacts of COVID-19 in low income countries, argue that before the pandemic, about 96% of households with school-aged children attended school but this fell to 46% of those who were engaged in any form of learning following the outbreak and school closures. The authors argue that children from high income households were more likely to be engaged in learning than those from low income households. Their study also found that only 50% of school-aged children were using technologies such as televisions, radios or smartphones for learning.

Objectives of the study

The measures taken to combat COVID-19 pandemic were sudden and unexpected. The long closure of schools, though intended to combat COVID-19, may have led to unintended consequences on the education sector. This study analyses the impact of COVID-19 measures on the education sector.

Specifically, the study:

- a) Investigates the impact of the long closure of schools on private and informal community schools;
- b) Analyzes the success of the online/remote learning;
- c) Analyzes the impact of the long closure of schools on teachers, boys and girls; and
- d) Investigates the learning institutions' level of preparedness to implement COVID-19 protocols when they reopened in October 2020;

The study aims to answer the following questions:

- a) How did the long closure of schools impact the private and informal community schools?
- b) What was the success of the online/remote learning?
- c) What are the impacts of the long closure of schools on teachers, boys and girls?
- d) What was the level of preparedness of learning institutions when they opened in October 2020?

The results of this paper provide a platform to engage and influence policy makers in charge of education to coordinate the required protocols to prevent the spread of the COVID-19 pandemic in learning institutions. The results also provide evidence to minimise the unintended consequences of the measures used to combat COVID-19.

3. Data and methodology

Data sources

The study uses secondary data sourced from documented literature using electronic databases, grey literature, reference harvesting and discourse analysis. The secondary data were sourced from the Ministry of Health, Ministry of Education, African Union Heads, International Monetary Fund, Kenya National Bureau of Statistics, National Treasury and Planning, Republic of Kenya, UNESCO, KEPSA, National Crime Research Centre, United Nations, United Nations University-World Institute for Development Economics Research (UNU-WIDER), World Bank, Government of Kenya policy documents, Minet Insurance Company, civil societies, non-governmental organizations and faith-based organizations. Additional literature and data were sought from other relevant institutions, which included other Government ministries, departments, and autonomous agencies. We also analyzed social and mainstream media reports on the COVID-19. Secondary data were complemented with primary data.

Methodology and process

To gather information on the impact of COVID-19 on the education sector, the author attended webinars on education to gather data on students, parents, teachers, owners of private education institutions and policy makers. Online discussions with other researchers doing work related to this topic were held, and we exchanged information and learnt from one another. An electronic questionnaire was administered to students both male and female, parents, teachers, owners of private education institutions, and policy makers. Primary data were also gathered through Focus Group Discussions (FGDs) with parents, teachers, and education administrators. Oral testimonies were also recorded from the participants. Information was also gathered from key informants on education.

Guided by circumstances facing the country at the time this study was conducted (curfew, COVID-19 pandemic), the author found it convenient to use purposive sampling. Purposive sampling generally helps a study to answer research questions by focusing on particular characteristics of a population of interest. In the case of this study, everybody in Kenya, male, female, young or old and people of all tribes and nationalities had in one way or another been affected by the COVID-19 measures.

The study oversampled Nairobi since it accounted for 43.3% of COVID-19 cases in Kenya. The first COVID-19 measures taken by the government closed off the Nairobi Metropolitan and people could not leave its boundaries and outsiders could not enter the Metropolitan. The effects of the COVID-19 measures were therefore expected to impact more the people living in the city and its surroundings. It was also easier to conduct and use an electronic questionnaire and conduct Focus Group Discussions during the day and be home early without breaking curfew hours. A total of 122 electronic questionnaires² were sent by email³ and 61 participants responded, giving a response rate of 60%.

The people interviewed in the electronic questionnaire were mainly education stakeholders who included students, educationist including teachers, consultants working in the education sector such as those working on education in emergencies; persons working with NGOs dealing with education, gender-based violence; owners of private learning institutions; and parents. These were persons who at one time or another had communicated with the authors through email, and it was therefore easy to approach them through email for interview. Table 2 shows the number of participants by region.

Table 2: Number of participants by region

| Region | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------|-------|-----------|---------|---------------|--------------------|
| Valid | Urban | 49 | 80.3 | 80.3 | 80.3 |
| | Rural | 12 | 19.7 | 19.7 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

As Table 2 shows, 80.3% of the participants came from urban areas while 19.7% were from the rural areas. Therefore, the total sample size for the electronic questionnaire⁴ was 61 participants with 42.6% males and 57.4% females as shown in Table 3.

Table 3: Number of respondents by gender

| Gender | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------|-------|-----------|---------|---------------|--------------------|
| Valid | M | 26 | 42.6 | 42.6 | 42.6 |
| | F | 35 | 57.4 | 57.4 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The respondents to the electronic questionnaire were chosen from a list of emails from the author's emailing list, since physical face to face interviews were hard to conduct at that time as many people were working from home.

Information was also sourced from 12 participants in FGDs^{5,6} from Kawangware, Kibra and Mathare, all in Nairobi; 20 key informants⁷ included heads of learning institutions, Ministry of Education, Education in Emergency, private owners of learning institutions,

and consultants in the Ministry of Education⁸; and 10 students. The students were 2 from public universities, 2 from public secondary schools in urban areas and 2 from rural areas. There were 2 students from private secondary schools in urban areas and 2 from rural areas as shown in Table 4, which shows the participants by profession.

Table 4: Number of participants by profession

| | Profession | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|------------------|----------------|----------------------|---------------------------|
| | Health | 18 | 29.5 | 29.5 | 29.5 |
| | Academia | 8 | 13.1 | 13.1 | 42.6 |
| | Consultant | 5 | 8.2 | 8.2 | 50.8 |
| | Housewife | 6 | 9.8 | 9.8 | 60.7 |
| | Banker | 4 | 6.6 | 6.6 | 67.2 |
| | Business People | 7 | 11.5 | 11.5 | 78.7 |
| | Students | 10 | 16.4 | 16.4 | 95.1 |
| | Retirees | 3 | 4.9 | 4.9 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The age of the participants ranged from 16 years (students) to those over 60 years as shown in Table 5.

Table 5: Total number of respondents age group

| | Age Group | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------|------------------|----------------|----------------------|---------------------------|
| Valid | 10-25 | 7 | 11.5 | 11.5 | 11.5 |
| | 25-45 | 14 | 23.0 | 23.0 | 34.4 |
| | 45-60 | 22 | 36.1 | 36.1 | 70.5 |
| | 60-100 | 18 | 29.5 | 29.5 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Majority (36.1%) of the respondents were in the 45-60 years age group followed by those over 60 years (29.5%). Those below 25 years were mainly students while majority of the 25-45 age group were young parents.

Village and church elders from the 3 informal settlements were used to identify the FGD participants. Participants were asked how the measures taken by the government to combat COVID-19 had impacted on them, depending on whether they were students, parents, owners of private schools and administrators of public schools, including community schools. Questions were also asked on whether they had the technology for remote learning and whether the students learnt during long closure of schools.

Key informants were asked questions on government funding of public schools and their opinion on the level of preparedness of schools to implement the COVID-19 protocols when schools opened at the beginning of October 2020.

The primary data were thereafter transcribed, grouped into themes, analyzed then presented in narratives to complement the secondary data, which is presented in tables and graphs.

Limitations of methodology

COVID-19 was declared a pandemic in March 2020 and, therefore, very little had been documented on its impact. However, some institutions such as KEPSA had done rapid surveys in March and April 2020 to gauge the impact of COVID-19 measures. Some researchers such as Kathule (2020) had also done some work on the impact of COVID-19 on education. However, both studies were done in early to mid-2020 when it was not clear when schools would re-open. The KNBS in 2020 also did a study on the socio-economic impact of COVID-19 on households in May 2020. Some of the findings of these studies are compared with the results of this study. Kenya had not had the experience of a pandemic and, therefore, the Ministry of Education did not have data that could be used to show how the measures had impacted on the education sector. The Ministry of Health was releasing information on the pandemic daily while the Ministry of Education was issuing guidelines on how learning would take place in response to the measures that were being given by the Ministry of Health. There was, therefore, very little data on the impact of the pandemic or impact of measures to combat it that were in existence. To overcome this challenge, this study collected primary data from Kenyans who gave their version of how the COVID-19 pandemic measures had impacted them. Key informants also gave valuable information on how these measures had impacted on the education sector. Considering the small sample size, these results should be interpreted with caution, and the impact also taken as a correlation and not direct causation.

4. Results and findings

Impact of the long closure of schools on private schools

The study found that 44.3% of participants chose private schools for their children, 36.1% community schools while only 19.7% had chosen to take their children to public schools as shown in Table 6.

Table 6: Choice of school

| Type of School | | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|-----------|---------|---------------|--------------------|
| Valid | Public | 12 | 19.7 | 19.7 | 19.7 |
| | Private | 27 | 44.3 | 44.3 | 63.9 |
| | Community | 22 | 36.1 | 36.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The reasons given by participants for choice of school and especially those who chose private or community school ranged from there being no public schools in their residential area (41.0%) and that private schools are not overcrowded (27.9%). There were those who said that they chose the school since it is nearer to where they live (16.4%) while others (14.8%) said the choice was based on the school being cheap as shown in Table 7.

Table 7: Reason for choice of school

| Reason for Choice of School | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------------------------|-----------|---------|---------------|--------------------|
| It is cheap | 9 | 14.8 | 14.8 | 14.8 |
| It is not crowded | 17 | 27.9 | 27.9 | 42.6 |
| There are no public schools in my area | 25 | 41.0 | 41.0 | 83.6 |
| It is the nearest to where we live | 10 | 16.4 | 16.4 | 100.0 |
| Total | 61 | 100.0 | 100.0 | |

This study found that due to the long closure of schools, private schools were negatively affected and 75% of the owners of schools interviewed said that they had not opened their institutions in October 2020, giving various reasons. About 95% of the participants said that COVID-19 protocols are too expensive to implement and therefore they had chosen not to open their schools at that time. Five per cent (5%) said that they could not maintain the schools open due to lack of finances, and thus converted the school buildings to other business. It is important to note that by the time of the interview, the Ksh 7 billion that the Kenya government had pledged to give private schools had not yet been disbursed. Among the schools that closed were community schools. Most of these informal community schools rely on donor funding or small contributions from parents and the children are not only taught but also fed nutritious food during the time they are in school. The children are also protected from the vices that exist in informal settlements, such as petty theft, burglary, prostitution, drug abuse, among others. One key informant, a principal in an urban school quipped:

“I’m afraid that only half of the girls will return in my class when schools reopen in January 2021”.

This study found that 40% of students did not report back to school while 50% of those who did not report got pregnant during the long closure of schools.

Success of the online/remote learning

As mentioned earlier, the government directed that children would continue learning online or what is known as remote or virtual learning. Information from key informants confirmed that to make sure that learning continued in schools despite the closure, the Government of Kenya through the Ministry of Education had launched certain education programmes broadcasted through television or radio and You Tube. Also, copies of textbooks were made available for all students on the Kenya Education Cloud. The government also partnered with Telkom Kenya and Kenya Civil Aviation Authority to establish Google’s Loon Balloons carrying 4G base stations all over the Kenyan airspace. However, not all households, urban or rural, have the required equipment to participate in online/remote learning. Many households in urban informal settlements and those in rural areas do not have online access because of poor infrastructure or connectivity, or a lack of devices.

Some universities decided to immediately migrate their teaching and learning to be offered online, but other universities did not. A few private schools also decided to offer classes online, but majority did not and therefore there was confusion as to whether learning was really taking place. This is captured through an oral testimony by a PhD student who felt that her life was thrown into disarray by the COVID-19 and the resulting uncertainty (Box 1).

Box 1: The impact of COVID-19 on my schooling

As a PhD student at a local university, March 2020 was busy for me as I prepared for my end of Jan-April 2020 semester examinations. Despite the COVID-19 pandemic scaring the world with economic closures, I was optimistic that I would have managed to complete my exams.

On the 13th of March, the government made the announcement that all institutions had to close by the 20th March 2020 as the country had reported the first few positive cases of COVID-19. This was a blow to me as I had my life well planned out and even had taken a study leave.

For the next 7 months, there was too much uncertainty as the COVID-19 surge grew exponentially and studying became so difficult. Many local universities and learning institutions started online learning and some even managed to complete examinations online. My university could not do so. Many universities have directions on learning online but mine kept quiet. I stopped studying and decided to focus on getting income as my place of work slashed our salaries by 60%.

I have never gone through so much uncertainty in my life. 7 months down the line, as the country contained the spread of the virus, there was a ray of hope for my university to resume normal learning.

After the government gave a directive for universities to open in phases, my university floated a memo with very tight timelines. We were given only 2 weeks to read and sit for examinations; not online but face to face. This caught me by surprise as I was already engaged in another project which I had to give up; at the same time, I had just lost my best friend but I had to start revising.

Furthermore, without any communication on how my university was planning to open and especially in strict adherence to COVID-19 guidelines, we were required to go back to the university and sit for exams in October 2020.

This wasn't normal for me. For once, I felt not safe; I did not dare to go and sit in a library and read; I had to read mostly in my house where I hosted many of my cousins and some relatives. Studying and revising was hard; so I had to work so late and sleep so late to ensure I was ready for the exams.

Doing examinations was very strange as we had to keep our masks on at all times. Life was no longer normal. My classmates felt distant. We could not even greet each other as we used to. We could not even do group discussions as it was against social distancing. Indeed, social order was in disarray.

COVID-19 changed the way we learn and now as I look forward to starting my second year of course work. I am not sure how the university expects us to learn.

Indeed, this pandemic has been the biggest disruption in the global education system.

PhD Student

Very few teachers had been trained to offer education online and most of the material that was being used was in most cases not according to the recommended curriculum, and therefore the quality of learning could have been compromised.

For those students who were able to access online platforms, several key informants said that there were cases of internet predators who were masquerading as teachers. They were luring the girls to meet them online and thereafter arrange to meet outside the confines of the home without the knowledge of parents.

One parent quipped:

“My wife and I are self-employed. Although our children are in private boarding schools, the abrupt closure meant that the children did not come home with homework. Online learning meant that either I or my wife stays at home to supervise them, which would mean loss of income for the household. We could not allow them to access online material unsupervised and so they only learned for a week and thereafter we stopped them. We also felt that schools would continue from where they had left since not every child was accessing online teaching. When schools opened and the children were given the assessment exam, my children did badly but they have since caught up and they are doing very well”.

Among the students who were interviewed, only 30% answered in the affirmative that there was adequate online/remote learning while the remaining 70% reported no adequate learning as shown in Table 8.

Table 8: Proportion of respondents on whether there was adequate online/remote learning during the long closure of schools

| Adequate learning | | Frequency | % | Valid Percent | Cumulative % |
|-------------------|-------|-----------|-------|---------------|--------------|
| Valid | No | 7 | 70 | 70 | 70 |
| | Yes | 3 | 30 | 30 | 100 |
| | Total | 10 | 100.0 | 100.0 | |

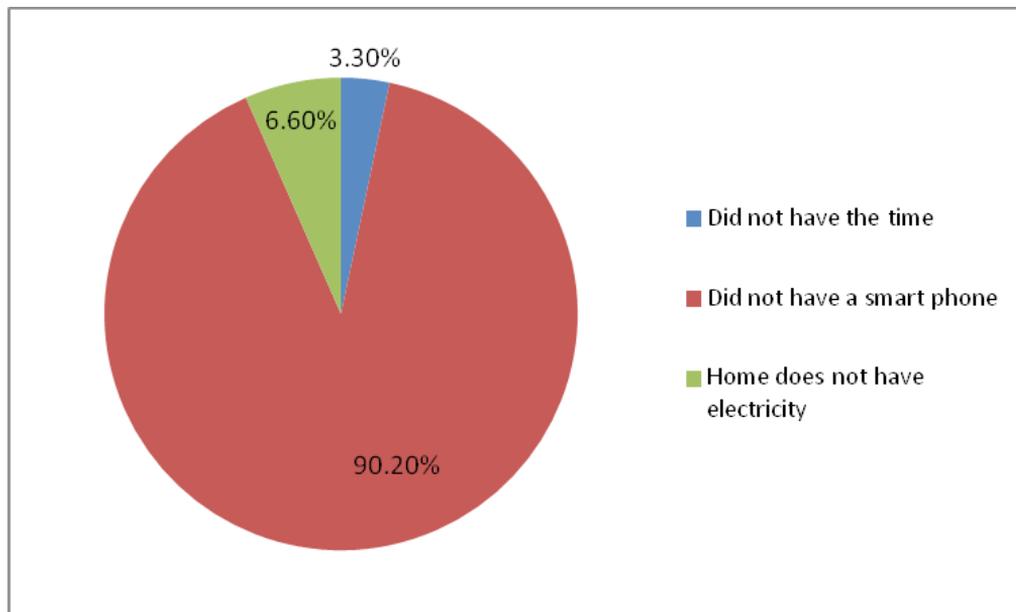
There were several reasons given by all participants for the inadequacy in online/remote learning, ranging from students lacking smartphones (88.5%) to homes not having internet connection, no electricity in some homes, and students not having smartphones (11.5%) as shown in Table 9.

Table 9: Reason for no adequate online/remote learning

| Reason for no adequate learning | | Frequency | % | Valid % | Cumulative % |
|---------------------------------|----------------------------------------------------------------------------------------------------|-----------|-------|---------|--------------|
| Valid | Some students do not have smartphones | 54 | 88.5 | 88.5 | 88.5 |
| | No internet in most homes, no electricity in some homes and some students do not have smart phones | 7 | 11.5 | 11.5 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

All participants were asked whether students were able to study during the long closure of schools, whether online or offline. Only 3.3% said they did not have the time but a staggering 90.2% reported that lack of smartphones prevented students from doing any form of studying as shown in Figure 5.

Figure 5: Reason student did not study during the long school's closure



If students were not studying due to the reasons given above, it means that they were not engaged in academic activities. During the first few months of the pandemic, there was very little movement, and this left most of the students idle and they had time to experiment with drugs or alcohol. 30% of key informants said that they knew of children in their neighbourhoods who were on drugs and alcohol. Majority of key informants were worried that the long closure of schools had shown how little parents knew their children.

Also, the effect of not studying for almost 6 months led to loss of learning among the students. This was evident when classes 4 and 8 reported to schools on 4th of October 2020 and the pupils/students were subjected to an assessment test to gauge how much learning had been lost. The results of the assessment were announced by the Kenya National Examinations Council in early February 2021, and it emerged that majority of the pupils did not attain 50% in almost all subjects tested, implying learning loss attributed to the long closure of schools to curb the spread of COVID-19. There were also glaring regional disparities between rural and urban counties, with urban counties performing much better than the rural ones. Nairobi led the park with an average of 59.2% while Turkana was last with 44.3%. Out of 47 counties, only 17 managed to achieve a score of 50%. There were also disparities between private and public schools, with private schools scoring a mean average of 65.8% compared to

public schools' 47.4% (KNEC, 2021). These results resonate with those of Kathule (2020) who found that most of the students (60%) had forgotten most of what they had learnt in term one before schools were closed.

Impact of long closure of schools on teachers, boys and girls

When the Government of Kenya ordered the closure of schools, including tertiary institutions on 15th of March 2020 to combat the spread of COVID-19, it caught the stakeholders in the education sector unexpectedly since they had not planned for this. This affected over 30,000 primary and secondary schools, implying that about 14 million pupils and students had their studies interrupted and 310,000 teachers were rendered idle. Schools employ support staff, including cleaners, cooks, bursars, nurses, matrons, among others. Some schools' employ their own teachers who are paid by the Boards of Management (BOMs). All these support staff and BOM teachers found themselves unemployed and with no salaries for the first five months of COVID-19.

A report by Minet Kenya Insurance reported an increase in the number of teachers struggling with mental health concerns, including depression and that in the month of April 2020 alone, 400 teachers sought mental health services in different health facilities in the country. Bungoma led the list with 28 teachers complaining of stress followed by Nairobi with 24 teachers, Bomet 23, Machakos 20 and Uasin Gishu, West Pokot, Mandera and Marsabit each. Male teachers comprised 54% of the total, females 29% and 17% of unknown category.

The health service provider reports that the number of both the inpatient and outpatient claims tripled during the first quarter of 2020 compared to the last quarter of 2019. From March 2020 to 7th January 2021, 345 teachers in public schools had contracted COVID-19, out of which 159 were males and 186 were females as reported by the Teachers Service Commission on 7th January 2021. Between March and 25th November 2020, 36 teachers had died of COVID-19, according to a report by Minet Insurance Company and, out of these, 15 of them were principals of schools and the rest were classroom teachers.

This study found that 36.1% of the respondents reported that their children went back to school when they reopened in October 2020 while 16.4% said that their children did not report back, giving various reasons as shown in Table 10.

Table 10: Reason why children did not report back to school

| Reasons why children did not report back to school | Frequency | % | Valid % | Cumulative % |
|----------------------------------------------------|-----------|-------|---------|--------------|
| The school closed due to lack of finances | 2 | 3.3 | 3.3 | 3.3 |
| My child refused to go back to school | 57 | 93.4 | 93.4 | 96.7 |
| I transferred the child to a public school | 1 | 1.6 | 1.6 | 98.4 |
| All of the Above | 1 | 1.6 | 1.6 | 100.0 |
| Total | 61 | 100.0 | 100.0 | |

Table 10 shows 93.4% of the respondents reporting that their children refused to go back to school while 3.3% reported that the schools that their child had been studying was closed due to lack of finances.

Secondary data from the National Crime Research Centre (2020) shows that the first half of 2020 recorded more than half the total number of gender-based violence cases recorded in 2019, suggesting an increase in the number of GBV cases. The three top forms of GBV were sexual abuse, physical abuse, forced marriage, child abduction/kidnapping, emotional abuse and child marriage as shown in Table 11.

Table 11: Forms of GBV in Kenya between January 2018 and June 2020

| Forms of GBV | Number of cases reported during January-December period | | Number of cases reported during January-June 2020 period | | |
|----------------------------|---------------------------------------------------------|------|----------------------------------------------------------|----------------------------------------------|----------------|
| | 2018 | 2019 | 3-months pre-COVID-19 restrictions period | 3-months during COVID-19 restrictions period | Total for 2020 |
| | | | Jan-March | April -June | |
| Sexual abuse | 455 | 248 | 59 | 132 | 191 |
| Physical abuse | 396 | 250 | 62 | 103 | 165 |
| Forced marriage | 53 | 0 | 0 | 0 | 0 |
| Child abduction/Kidnapping | 50 | 20 | 12 | 18 | 30 |
| Emotional abuse | 48 | 43 | 11 | 29 | 40 |
| Child marriage | 20 | 58 | 22 | 30 | 52 |
| Child trafficking | 16 | 10 | 2 | 2 | 4 |
| Female genital mutilation | 2 | 7 | 0 | 1 | 1 |
| Child abandonment | 0 | 36 | 0 | 0 | 0 |
| Child labour | 0 | 28 | 0 | 0 | 0 |
| Child neglect | 0 | 147 | 0 | 0 | 0 |
| Child prostitution | 0 | 1 | 0 | 2 | 2 |
| Child radicalization | 0 | 0 | 0 | 1 | 1 |
| Unlawful confinement | 0 | 7 | 2 | 1 | 3 |
| Online abuse | 0 | 1 | 1 | 2 | 3 |
| Totals | 1,040 | 856 | 171 | 321 | 492 |

Source: National Crime Research Centre (2020)

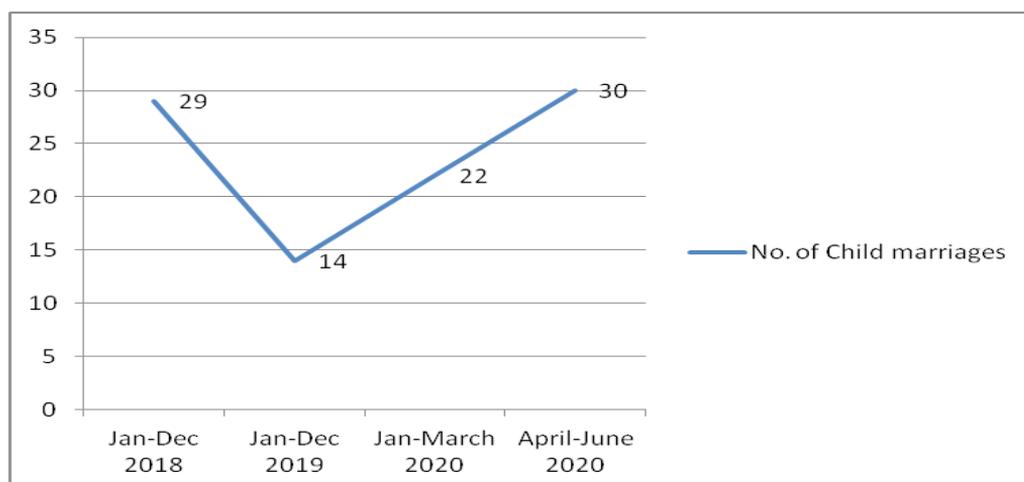
During the 3-months pre-COVID-19 restrictions period covering January to March 2020 and the 3-months period during COVID-19 restrictions covering April to June 2020, the number of GBV cases increased by 87.7%.

In Kenya, the decision by the government to close schools disrupted the calendar year, meaning that current students will need to repeat an entire school year and will graduate one year later than expected. School intakes for Standard 1, Form 1 and pre-primary did not take place in January 2021. National exams that were due later in 2020 were cancelled and Class 8 pupils and Form 4 students who were to sit the exams in 2020 will do so in March 2021. Disruption of the education calendar will see some students not going back to class when schools reopen after the long period of school closure. When the question of why the students did not report back to school was answered by the students, 40% reported that they had not gone back to school. Among those who did not report back to school, 50% reported that they got pregnant, 25% said that they got into business and another 25% said that their class was not among those that were to report in October 2020. This corroborates reports from schools that when schools opened on 4th October 2020, approximately 20,000 pupils in Standard 4, Standard 8 and Form 4 did not report back to school. In the North Rift region, approximately 13,000 Standard 4, Standard 8 and Form 4 students did not report back to school while Nandi County had 6,000 girls who dropped out of school. In Narok, 120 Standard 8 and Form 4 students did not report back to school.

The Ministry of Health's Information Systems (2020) data⁹ shows that in all the 47 counties, between January and June 2020, 8,264 adolescent girls of ages 10-14 years became pregnant. At the same time, 153,848 girls of 15-19 years of age became pregnant during that period, which was a 40% increase in the country's monthly average. The data also shows that 3,966 girls under the age of 19 were pregnant in Machakos County alone. In Turkana County, 558 adolescent pregnancies were reported between March and June 2020, which was almost a threefold increase from the same period in 2019 as reported by the Kenya Health Information System. During the period 2019 to 2020, Nairobi County was leading with 11,795 teenage pregnancies in the period January-May 2020 compared to the same period 2019 when there were 11,410 cases reported. Kakamega County comes second with 6,686 cases compared to 8,109 cases in 2019.

Adolescents and teenagers who become pregnant sometimes get married off by their parents. One key informant (a school principal) from a rural school reported that 10 students (7 girls and 3 boys) did not report back. She said that the chiefs reported to her that the girls had gotten married while the boys had entered into boda boda business.

During the lockdown due to COVID-19, there was an increase in the number of child marriages (National Crime Research Centre, 2020), as shown in Figure 6.

Figure 6: Number of child marriages 2018-June 2020

The number of yearly child marriages had been on a decline from 29 in 2018 to only 14 in 2019. However, within a period of 6 months (January to June 2020), the number of child marriages increased by 114.5% from 14 to 30.

Learning institution's level of preparedness to implement COVID-19 protocols

Though the government allocated money to fund the education sector, the money was not released to the institutions until January 2021. Although interviews for teachers were done in most schools in September 2020, the recruited teachers were to report in January 2020. Key informants, especially teachers, reported that fabricated desks had reached some schools but other schools are still waiting, confirming that schools were not well prepared for the reopening as shown in Table 12. Only 8.2% of the respondents reported that schools were prepared while the rest (91.8%) said that they were not prepared.

Table 12: Responses on whether public schools were ready for reopening

| Are public schools were ready for reopening? | | Frequency | % | Valid % | Cumulative % |
|----------------------------------------------|-------|-----------|-------|---------|--------------|
| Valid | No | 56 | 91.8 | 91.8 | 91.8 |
| | Yes | 5 | 8.2 | 8.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Majority of the respondents (50.8%) believed that the reasons for lack of preparedness were schools not having built any extra building to avoid overcrowding; not having hired more teachers to increase the teacher/pupil ratio; teacher employed by BOM teachers having not been paid; and that public schools were in a deplorable state, as shown in Table 13.

Table 13: Reasons for lack of preparedness

| Reasons for lack of preparedness | Frequency | % | Valid % | Cumulative % |
|-----------------------------------------------------------------------|-----------|-------|---------|--------------|
| They have not built any extra buildings to avoid overcrowding | 14 | 23.0 | 23.0 | 23.0 |
| They have not hired more teachers to increase the teacher/pupil ratio | 4 | 6.6 | 6.6 | 29.5 |
| The BOM teachers have not been paid | 9 | 14.8 | 14.8 | 44.3 |
| Schools are in a deplorable state | 3 | 4.9 | 4.9 | 49.2 |
| All of the above | 31 | 50.8 | 50.8 | 100.0 |
| Total | 61 | 100.0 | 100.0 | |

On the other hand, 23% believed that schools had not built extra buildings to avoid overcrowding.

Key informants in the Ministry of Education said that it would be too expensive to build classes in all public schools, and schools had to open at all cost and especially since younger people had shown some level of immunity from COVID-19. The key informants also confirmed that money had already been allocated for the rehabilitation of schools, and all that was remaining was disbursement to the respective learning institutions. Table 14 shows the reasons why schools were not prepared, by gender.

Table 14: Reason why schools were not prepared, by gender

| Gender | | Reason why schools not prepared | | | | | Total |
|--------------|---|---------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------|-----------------------------------|------------------|-----------|
| | | They have not built any extra buildings to avoid overcrowding | They have not hired more teachers to increase the teacher/pupil ratio | The BOM teachers have not been paid | Schools are in a deplorable state | All of the Above | |
| Gender | M | 8 | 1 | 3 | 0 | 14 | 26 |
| | F | 6 | 3 | 6 | 3 | 17 | 35 |
| Total | | 14 | 4 | 9 | 3 | 31 | 61 |

There were more women (57.4%) who reported that schools were not prepared compared to 42.6% males. Information from key informants from the education sector confirms that when they were told to re-open schools, the children now in school occupy all the facilities that would have been used by all students if all of them had reported. They kept asking themselves what they will do when the other streams return to school in January 2021. One of the key informant's sentiments are captured in Box 2.

Box 2: Education facilities and COVID-19

Madam Clara (not her real name) a principal of a secondary school says that when the Cabinet Secretary for Education announced that schools would re-open for primary classes four and eight and form fours, “we wondered what had changed since March when we were ordered to close schools. We were to use the same infrastructure in terms of classes, staff room, laboratories, library, toilets and urinals and so on”. We also don’t have water in my school since the pipes were spoilt when the road was being constructed and we are still waiting. We buy water and it is brought by a tanker and we fill the tank that you see over there. It costs us a lot. Is this the same water that we are going to use for hand washing? It will not be enough and it will require us to spend more on water”.

“Mine is a mixed day secondary school and we share the same compound with the primary school. On average, a class has 60 students and each student has their own desk and chair. However, the classes are usually overcrowded and there is little space between desks. We thought that during the 7 month closure, we would be given money to employ more teachers, build more classes, toilets for both boy and girls and a bigger dining hall since we offer our students breakfast and lunch. We were surprised when we heard that the government was allocating money for more desks”.

“Our problem is not desks”. Where shall we put the desks? “It is the same space. We need more classes and more teachers to handle these classes to avoid overcrowding and to conform to the COVID-19 protocols of social distancing. We fear for our lives since the students go home at the end of the day to mix with their families. We also go to our respective homes and mix with others. This is a very high level of exposure to COVID-19 because we can infect our students and they can infect us too. Community transmission is now common since students and teachers don’t wear masks at home or even when they are walking to and from school. The government should have been preparing the re-opening immediately the schools were closed in March 2020”

5. Discussion of results and findings

Our study found that 36.1% of parents had chosen to take their children to community schools. These findings concur with those of Kimathi (2020) who found that in Nairobi alone, there are about 3,500 largely community-based, single-owner schools who do not get government support. Our results also concur with those of APHC (2013) that found that 50% of the children in five major urban areas were enrolled in low fee private or community schools. These institutions educate more than 60% of Nairobi's urban informal settlement population, since only 37% of the slum population can access public schools. These community schools are run using the parents' little contributions and therefore when all schools were ordered closed in March 2020, it sounded like a death knell to the schools.

This study found that 75% of the owners of schools interviewed had not opened their institutions in October 2020 due to financial difficulties, and difficulties in implementation of COVID-19 protocols. These results concur with those of KEPISA (2020), whose survey reported that 93% of private learning institutions had been negatively impacted by COVID-19 measures. The directive on schools' closure amid COVID-19 saw several of them face financial difficulties compared to public schools. The Kenya Private Schools Association Chairperson, Mutheu Kasanga, on 14th August 2020 said that administrators of private schools cite lack of finances to keep the schools going due to the COVID-19 pandemic and are shutting down completely. On 29th December 2020, Nation TV reported that about 200 private schools would not resume learning when schools reopened in January 2021, meaning that about 54,000 learners will have to look for alternative schools or remain at home. It also means that about 1,400 teachers and 1,100 support staff were rendered jobless by the closures.

This study found that among the students who were interviewed, only 30% said that there was adequate online/remote learning while the remaining 70% reported no adequate learning. The findings contradict those of Save the Children (2020) who found that 82% of the learners in Dadaab refugee centre were still learning at home during COVID-19 and only 15% were not learning at home. However, the results are also nearer those found by Kathule (2020) who found that 56.7% of learners were taking online learning, while 43.3% were not participating in online learning introduced by the government. UNICEF (2020) had also found that very little online learning took place during the COVID-19 lockdown. Josephson, Kilic and Michler (2021) also found that only 46% of households with school aged children were engaged in any form of

learning following the outbreak and school closures. KNBS (2020) found that 24.6% of households with members who usually attend any learning institution were not using any method to continue learning at home, and only 12.2% were participating in online learning. From these findings, a huge proportion of students did not access online/remote learning.

Only 3.3% said they did not have the time but a staggering 90.2% reported that lack of smartphones prevented students from doing any form of studying while 6.6% lacked electricity. Kathule's (2020) study found that unavailability and inaccessibility of internet had made online learning impossible for most of the students (56.7%) while 21.7% lacked digital skills and therefore could not adopt online learning effectively. About 20% of the students had no access to electricity and therefore could not participate in online studies. Bhatia et al. (2020) reported that at least a third of the world's school children (463 million) were unable to access remote learning when COVID-19 led to closure of their schools.

In this study, 30% of key informants reported knowing of children in their neighbourhoods who were on drugs and alcohol, confirming NACADA (2020) report which found that 7.2% of primary school children and 23.4% of secondary school students had tried alcohol while 3.8% of pupils in primary and 9.3% in secondary had tried drugs during the lockdown. According to the NACADA report, the most common periods when drugs are abused are during school holidays (30%) and on the way from school (22%). 29.3% of the students obtain alcohol or drugs from home.

About 93.4% of the respondents reported that their children refused to go back to school. Children can drop out of school due to various reasons, such as child pregnancies, child marriage, and engaging in other activities not related with education. In Uganda, Tumwesige (2020) reported that many children from low income areas would not return to schools when they reopen after the prolonged lockdown due to various reasons such as pregnancies and early marriages.

6. Summary and conclusion

Summary

The objective of this study was to analyse the impact of COVID-19 measures on the education sector. The study investigates the impact of the long closure of schools on private and informal community schools; analyzes the success of the online/remote learning; analyzes the impact of the long closure of schools on teachers, boys and girls; and finally investigates the learning institution's level of preparedness to implement COVID-19 protocols when they reopened in October 2020.

This study uses secondary data complemented with primary data to meet these objectives. It also uses anecdotal evidence where available to provide a brief comparative analysis of how Kenya has fared in these aspects before and during the onset of COVID-19 pandemic relative to other countries in East Africa.

Conclusion

COVID-19 adversely affected the education sector, especially through the measures that the Government took to combat the spread of the virus. The study exposes the need for more expenditure on the education sector to implement the COVID-19 protocols. The long closure of schools led to loss of learning, increased dropout of students/pupils, increased cases of GBV, early pregnancies, early child marriages, permanent closure of some private/community schools, and exposed the inequality in availability of infrastructure and equipment that would have helped online learning.

7. Lessons learnt and implications for policy makers

Lessons learnt

1. Although government allocation of funds to public schools comprises a large proportion of its budget, it still remains below the recommended 20% of the national budget.
2. Although the government allocated Ksh 7 billion to support private/community schools, it took long for this money to reach the schools that were facing financial difficulties.
3. The permanent closure of many private schools led to more overcrowding of existing public schools.
4. Long closure of community schools exposed girls and boys to vices such as drug and alcohol abuse that exist in informal settlements.
5. In the education sector, the existing policy of 100% transition is a good idea since it ensures equality of the right to education to all. However, the level of bureaucracy that exists in disbursement of funds to public schools to meet their needs, such as for more infrastructure, hiring of more teachers and many others leads to delay and is reflected in the lack of preparedness of these schools when they re-opened in January 2021.
6. Very little online teaching and learning took place during the pandemic as the resources and equipment were not available.
7. A number of students did not report back to schools when they re-opened as the long closure of schools disrupted the academic calendar and some students got engaged in other business not related to academics while others, especially girls, got pregnant or got married.
8. There was an increase in the number of adolescent pregnancies in Kenya attributed to the long closure of schools due to COVID-19 measures.
9. COVID-19 measures led to an increase in the number of early child marriages in Kenya.

10. Teachers were also adversely affected by the COVID-19 pandemic as a number of them lost their jobs, especially those in the private schools and those in public schools employed by Boards of Management. A number of them also contracted COVID-19 while others succumbed to the disease.

Implications for policy makers

Short run

Strengthen curriculum: The Kenya Institute of Curriculum Development needs to strengthen the curriculum and school syllabus that address child rights, reproductive health and sex education in schools to empower children to speak out against violations of their rights, and other abuses.

School-based child-friendly GBV reporting mechanism: School managements need to establish a school-based child friendly GBV reporting mechanism.

Medium term

Guidance and counseling: Considering that students and teachers lost some of their own due to COVID-19, and that some students had already entered the world of work without restrictions as they face in a school setting, there is need to have well-trained guidance and counseling staff in schools to help both teachers and students face the challenges that they may face as they try to adjust to school life. There is also need for education sector agencies to deepen the existing structures of guidance and counseling with a special focus on online guidance and counseling targeting educational, vocational and personal/social life of learners at all levels of education service.

Out of school programmes: The Department of Child Services and Department of Culture needs to formulate, plan and implement out-of-school programmes for children across the country to keep them occupied.

GBV safe houses: The Ministry of Labour and Social Protection and non-state actors need to urgently establish safe houses for children who experience GBV and other forms of violations.

Regulation on sale of alcohol: There is need for strict regulation of the sale of alcoholic beverages and drinks, and drugs.

Work life balance: There is need to come up with work/life balance programmes for parents aimed at improving care and support of their children during this pandemic, and any other that may come in future.

Long term

Address level of bureaucracy: The government needs to increase the infrastructure in public schools to take care of those students who used to study in private schools that have now closed permanently. This can be done by addressing the level of bureaucracy that leads to delays in disbursements of funds allocated to public schools.

Alternative funding model of private schools: Private schools need to look for an alternative funding model instead of only relying on fees paid by students. Private schools complement government efforts in providing education. Therefore, the government should treat them the same way as small and medium enterprises in terms of support.

Community schools: In case of another long closure due to a pandemic, it is important for the government to take over community schools and continue protecting children in these schools to prevent them from being exposed to vices that exist in informal settlements. As it is now, most of these community schools rely on donor funding.

Remote/online teaching and learning: There is need to increase electricity and internet connectivity to all households in Kenya to increase the level of online/remote learning not only during a pandemic but also in normal times. At the same time, the government should revisit the idea of every child having a tablet since this study found that very few students were able to access online study due to lack of smartphones. The pandemic has presented an opportunity for schools to embrace online learning to complement in-person classroom learning and to train teachers and students in digital skills in the fast-changing world of technology.

Notes

1. School of Economics, University of Nairobi, P.O. Box 30197-00100, Nairobi; tkiriti@yahoo.co.uk, tkiriti2013@gmail.com, tkiriti@uonbi.ac.ke
2. The same sample was used to collect information on health, whose results are presented in another paper.
3. The author used email addresses of persons known to her and therefore no ethical considerations were broken. This happens quite often when doing surveys using survey monkey.
4. Annex 2
5. Annex 3
6. Questions for FGD are in Annex 4
7. Questionnaire for key informants is in Annex 5
8. Annex 6
9. Annex 7.

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Annex

Annex 1: COVID-19 cases distribution per county as at 16th February 2021

| County | | COVID-19 Cases |
|--------------|--------------|----------------|
| Total | | 103,188 |
| 1. | Nairobi | 44,640 |
| 2. | Mombasa | 9,133 |
| 3. | Kiambu | 6,626 |
| 4. | Nakuru | 4,854 |
| 5. | Kajiado | 3,227 |
| 6. | Uasin Gishu | 3,013 |
| 7. | Busia | 2,920 |
| 8. | Kilifi | 2,766 |
| 9. | Machakos | 2,558 |
| 10. | Kisumu | 2,229 |
| 11. | Kericho | 1,585 |
| 12. | Meru | 1,260 |
| 13. | Nyeri | 1,179 |
| 14. | Laikipia | 1,052 |
| 15. | Kakamega | 1,039 |
| 16. | Kisii | 1,020 |
| 17. | Turkana | 990 |
| 18. | Bungoma | 987 |
| 19. | Migori | 919 |
| 20. | Murang'a | 865 |
| 21. | Trans Nzoia | 795 |
| 22. | Kitui | 770 |
| 23. | Garissa | 745 |
| 24. | Embu | 651 |
| 25. | Taita Taveta | 646 |
| 26. | Siaya | 572 |

continued next page

Annex 1 Continued

| County | | COVID-19 Cases |
|---------------|-----------------|-----------------------|
| 27. | Kirinyaga | 514 |
| 28. | Makueni | 510 |
| 29. | Nandi | 495 |
| 30. | Narok | 483 |
| 31. | Kwale | 445 |
| 32. | Nyandarua | 387 |
| 33. | Bomet | 379 |
| 34. | Homa Bay | 367 |
| 35. | Nyamira | 349 |
| 36. | Baringo | 329 |
| 37. | Lamu | 313 |
| 38. | Isiolo | 267 |
| 39. | Vihiga | 195 |
| 40. | Samburu | 191 |
| 41. | Tharaka Nithi | 190 |
| 42. | West Pokot | 168 |
| 43. | Marsabit | 152 |
| 44. | Elgeyo Marakwet | 115 |
| 45. | Mandera | 107 |
| 46. | Tana River | 104 |
| 47. | Wajir | 84 |

Annex 2: Education face to face questionnaire

1. COUNTY_____
2. REGION Urban (1) Rural (0)
3. NAME_____
4. GENDER (Female (1) Male (0)
5. AGE IN YEARS_____
6. PROFESSION_____
7. DESIGNATION_____
8. WORKPLACE_____

Student's module

1. Do you think that the measures taken by government to combat COVID-19 affected you?
 - (a) Yes-1
 - (b) No - 0
 - (c) N/A
2. In your opinion, do you think remote learning during COVID-19 provided adequate learning to the learners?
 - (a) Yes – 1
 - (b) No – 0
 - (c) N/A
3. If the answer to question 2 is “No”, why do you think there was no adequate learning?
 - (a) No internet in most homes – 1
 - (b) No electricity in some homes-2
 - (c) Some students do not have smart phones – 3
 - (d) All the above - 4
4. As a student, did you manage to study during the long closure?
 - (a) Yes – 1
 - (b) No- 0
5. If the answer to question 4 is “No”, what prevented you from studying?
 - (a) I did not have the time – 1
 - (b) My home does not have internet connection – 2
 - (c) I do not have a smartphone – 3
 - (d) My home does not have electricity – 4
 - (e) All the above - 5
6. Did you report back to school when they opened in October?
 - (a) Yes - 1
 - (b) No - 0

7. If answer to Question 6 is “No” why did you not report to school?
- (a) I got pregnant - 1
 - (b) My class was not among those who were to report in October 2020 -2
 - (c) I feared contracting the virus - 4
 - (d) I got into business - 5

Parent's module

1. Was your child in a public, private school or community school?
 - (a) Public - 1
 - (b) Private – 2
 - (c) Community - 3
2. Why did you take your child to that school?
 - (a) It is cheap – 1
 - (b) It is not crowded – 2
 - (c) There are no public schools in my area – 3
 - (d) It is the nearest to where we live - 4
3. If your child is in a private school or community school, did your child report back to that school when they opened in October 2020?
 - (a) Yes- 1
 - (b) No – 0
4. If the answer to question 3 is “No” why did your child not report back to school?
 - (a) The school closed due to lack of finances - 1
 - (b) I lost my job and so I could not afford to maintain them in a private school – 2
 - (c) My child refused to go back to school - 3
 - (d) I transferred the child to a public school - 4
5. Do you think public schools were ready and well prepared for opening in October 2020?
 - (a) Yes - 1
 - (b) No - 0
6. If the answer to question 5 is “No”, why do you think they are not well prepared?
 - (a) They have not built any extra buildings to avoid overcrowding – 1
 - (b) They have not hired more teachers to increase the teacher/ pupil ratio – 2
 - (c) The BOM teachers have not been paid – 3
 - (d) Schools are in a deplorable state – 4
 - (e) All the above - 5

Owners of private schools module

1. Did your school open in October 2020
 - (a) Yes - 1
 - (b) No - 0
2. If the answer to question 1 is “No”, why didn’t your school open?
 - (a) I could not maintain it open due to lack of finances - 1
 - (b) I converted it to other business - 2
 - (c) The COVID-19 protocols are not expensive to implement - 3
 - (d) All the above - 4

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Annex 3: Questions for FGD

1. How has the COVID-19 measures taken by the government to combat COVID-19 impacted on you?
2. Are children learning during the long closure of schools?
3. Since the Government of Kenya recommended remote learning during the long closure, how successful has it been?

Annex 4: Questionnaire for key informants

1. In your opinion what is the impact of the long closure of schools on the education sector in general?
2. In particular, how has the long closure of schools affected the education of girls and boys in Kenya?
3. When form fours, class 8 and 4 reported to school in October, how many girls/ boys did not report back to school? What are some of the reasons for the drop of either boys or girls?
4. There have been allegations that public schools in Kenya are overcrowded and the COVID-19 protocol of social distancing may not be achieved when schools open in January. Is this true? Why do you think this is so? What should be done to alleviate the situation?
5. Did you conduct online teaching during the long closure? If not why?
6. Is your school prepared for the eventual opening of school in January? If yes, how ready are you? If not, what are reasons for lack of preparedness?

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Annex 5: Adolescents (age 10-19) presenting with pregnancy at health facilities

| | 2019 | | | | | | 2020 | | | | | |
|-------------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|--------|
| | Jan | Feb | Mar | Apr | May | Total | Jan | Feb | Mar | Apr | May | Total |
| Nairobi | 2,412 | 1,813 | 2,630 | 2,262 | 2,293 | 11,410 | 3,651 | 3,090 | 2,088 | 1,494 | 1,472 | 11,795 |
| Kakamega | 1,904 | 1,379 | 1,670 | 1,531 | 1,625 | 8,109 | 1,560 | 1,186 | 1,232 | 1,275 | 1,433 | 6,686 |
| Homa Bay | 1,300 | 924 | 1,170 | 1,226 | 1,313 | 5,933 | 1,219 | 1,232 | 1,159 | 1,178 | 1,173 | 5,961 |
| Kajiado | 1,045 | 1,066 | 992 | 1,059 | 1,166 | 5,328 | 1,214 | 1,157 | 1,091 | 1,248 | 1,131 | 5,841 |
| Nakuru | 1,274 | 1,321 | 1,245 | 1,179 | 1,773 | 6,792 | 1,339 | 1,050 | 1,211 | 1,094 | 1,142 | 5,836 |
| Narok | 1,266 | 1,213 | 1,409 | 1,160 | 1,432 | 6,480 | 1,296 | 1,231 | 1,084 | 847 | 1,127 | 5,585 |
| Bungoma | 1,667 | 1,449 | 1,639 | 1,293 | 1,291 | 7,339 | 1,230 | 1,014 | 1,073 | 1,026 | 1,234 | 5,577 |
| Meru | 1,403 | 1,354 | 1,396 | 1,201 | 1,466 | 6,820 | 1,149 | 996 | 1,012 | 994 | 1,084 | 5,235 |
| Trans Nzoia | 1,071 | 532 | 1,140 | 1,189 | 1,088 | 5,020 | 1,056 | 910 | 974 | 939 | 1,050 | 4,929 |
| Kiambu | 1,190 | 1,226 | 1,241 | 1,157 | 1,239 | 6,053 | 1,027 | 991 | 1,027 | 836 | 953 | 4,834 |
| Migori | 1,047 | 823 | 978 | 1,037 | 1,075 | 4,960 | 942 | 893 | 819 | 852 | 905 | 4,411 |
| Kisii | 1,040 | 720 | 894 | 980 | 1,073 | 4,707 | 954 | 736 | 1,005 | 673 | 933 | 4,301 |
| Kwale | 1,119 | 1,040 | 1,102 | 1,012 | 928 | 5,201 | 955 | 885 | 900 | 695 | 617 | 4,052 |
| Machakos | 951 | 929 | 930 | 874 | 1,026 | 4,710 | 805 | 783 | 817 | 789 | 772 | 3,966 |
| Turkana | 758 | 844 | 799 | 737 | 717 | 3,855 | 695 | 784 | 854 | 713 | 818 | 3,864 |
| West Pokot | 854 | 295 | 612 | 676 | 641 | 3,078 | 941 | 587 | 689 | 810 | 811 | 3,838 |
| Kericho | 818 | 1,274 | 780 | 923 | 915 | 4,710 | 856 | 848 | 697 | 693 | 735 | 3,829 |
| Bomet | 1,002 | 733 | 956 | 863 | 910 | 4,464 | 765 | 722 | 693 | 712 | 730 | 3,622 |
| Siaya | 1,114 | 893 | 984 | 973 | 1,165 | 5,129 | 796 | 681 | 662 | 756 | 701 | 3,596 |
| Kilifi | 1,119 | 964 | 914 | 969 | 755 | 4,721 | 859 | 738 | 672 | 608 | 534 | 3,411 |

continued next page

Annex 5 Continued

| | 2019 | | | | | | 2020 | | | | | |
|-----------------|------|-----|-----|------|-----|-------|------|-----|-----|-----|-----|-------|
| | Jan | Feb | Mar | Apr | May | Total | Jan | Feb | Mar | Apr | May | Total |
| Kisumu | 805 | 437 | 646 | 685 | 680 | 3,253 | 760 | 589 | 598 | 582 | 660 | 3,189 |
| Kitui | 800 | 654 | 849 | 772 | 820 | 3,895 | 700 | 581 | 542 | 492 | 731 | 3,046 |
| Vihiga | 701 | 563 | 512 | 570 | 646 | 2,992 | 679 | 433 | 664 | 572 | 560 | 2,908 |
| Nyamira | 666 | 617 | 653 | 772 | 682 | 3,390 | 695 | 538 | 478 | 520 | 510 | 2,741 |
| Busia | 828 | 613 | 570 | 630 | 536 | 3,177 | 599 | 485 | 534 | 513 | 454 | 2,585 |
| Makueni | 696 | 548 | 623 | 624 | 693 | 3,184 | 510 | 454 | 518 | 533 | 514 | 2,529 |
| Murang'a | 631 | 564 | 586 | 585 | 530 | 2,896 | 548 | 542 | 437 | 396 | 496 | 2,419 |
| Baringo | 507 | 315 | 507 | 427 | 501 | 2,257 | 482 | 464 | 474 | 395 | 467 | 2,282 |
| Tana River | 639 | 426 | 575 | 481 | 450 | 2,571 | 583 | 518 | 502 | 358 | 297 | 2,258 |
| Uasin Gishu | 805 | 803 | 982 | 925 | 915 | 4,430 | 464 | 407 | 427 | 436 | 397 | 2,131 |
| Laikipia | 484 | 398 | 504 | 455 | 490 | 2,331 | 439 | 454 | 392 | 381 | 430 | 2,096 |
| Samburu | 320 | 227 | 573 | 1059 | 465 | 1,959 | 456 | 423 | 386 | 384 | 377 | 2,026 |
| Elgeyo Marakwet | 348 | 223 | 309 | 335 | 364 | 1,579 | 348 | 295 | 356 | 342 | 345 | 1,686 |
| Tharaka Nithi | 345 | 325 | 313 | 307 | 371 | 1,661 | 320 | 307 | 300 | 282 | 298 | 1,507 |
| Garissa | 375 | 380 | 445 | 395 | 397 | 1,992 | 288 | 328 | 344 | 286 | 229 | 1,475 |
| Mandera | 503 | 378 | 509 | 303 | 325 | 2,018 | 224 | 320 | 239 | 227 | 407 | 1,417 |
| Marsabit | 368 | 331 | 500 | 322 | 304 | 1,825 | 240 | 326 | 223 | 252 | 319 | 1,360 |
| Nyeri | 283 | 277 | 230 | 223 | 261 | 1,274 | 278 | 287 | 262 | 245 | 248 | 1,320 |
| Wajir | 283 | 186 | 259 | 266 | 249 | 1,243 | 205 | 260 | 263 | 266 | 247 | 1,241 |

continued next page

Annex 5 Continued

| | 2019 | | | | | 2020 | | | | | Total |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| | Jan | Feb | Mar | Apr | May | Jan | Feb | Mar | Apr | May | |
| Nyandarua | 366 | 285 | 304 | 317 | 341 | 244 | 188 | 274 | 210 | 260 | 1,176 |
| Kirinyaga | 344 | 223 | 312 | 289 | 308 | 257 | 194 | 190 | 294 | 170 | 1,105 |
| Taita Taveta | 292 | 106 | 329 | 251 | 348 | 297 | 238 | 165 | 176 | 167 | 1,043 |
| Mombasa | 534 | 481 | 261 | 356 | 328 | 204 | 179 | 204 | 199 | 209 | 995 |
| Isiolo | 310 | 250 | 250 | 256 | 298 | 209 | 193 | 188 | 210 | 180 | 980 |
| Embu | 236 | 149 | 184 | 143 | 196 | 197 | 211 | 156 | 193 | 175 | 932 |
| Lamu | 146 | 95 | 143 | 67 | 136 | 140 | 120 | 133 | 67 | 56 | 516 |
| Total | 37,727 | 31,299 | 36,063 | 34,827 | 36,257 | 34,342 | 30,524 | 29,658 | 27,712 | 29,197 | 151,433 |

Source: Data extract from Kenya Health Information System (KHIS) as at 19th June 2020



Mission

To strengthen local capacity for conducting independent, rigorous inquiry into the problems facing the management of economies in sub-Saharan Africa.

The mission rests on two basic premises: that development is more likely to occur where there is sustained sound management of the economy, and that such management is more likely to happen where there is an active, well-informed group of locally based professional economists to conduct policy-relevant research.

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