



CENTER  
FOR  
GLOBAL  
DEVELOPMENT



# Exploring the Effects of the COVID-19 Pandemic on Low-Cost Private Schools in Nairobi, Kenya

✦ Olivier Habimana, Francis Kiroro, John Muchira, Aisha Ali, Catherine Asego, Rita Perakis, Moses Ngware

## Abstract

To contain the spread of the COVID-19 pandemic, schools in Kenya, as in many other countries, had to temporarily close. This study investigates the extent to which lockdowns and school closures affected households and low-cost private schools (LCPS) in four urban informal settlements in Nairobi: Kibera, Korogocho, Mathare, and Viwandani. Quantitative and qualitative data were collected from household heads, school heads, and key informants from August to October 2021. Our findings indicate that measures to contain the spread of COVID-19 significantly reduced household incomes, and among the coping strategies adopted by some households was to transfer learners from private schools to public schools, especially for learners in primary schools, because public primary schools do not charge tuition and enjoy government-paid teachers. The loss of income from school fees during school closure and from rent for premises, coupled with increased defaults on school fees and a significant reduction in enrollment when schools reopened, led to the permanent closure of some LCPS, and learners had to transfer to other schools. Furthermore, LCPS could not afford to pay teachers during school closures and therefore lost some when the schools reopened. A proportion of private schools opted to fill the gap with cheaper, unqualified teachers. Two main recommendations emerge from our findings. Considering increasing urbanization, especially growth of informal settlements whose residents are mainly low-income households, the government of Kenya should increase the spaces in the public schools available within and around these settlements. The majority of families in these settlements send their children to private schools because there are no government schools available near them, not necessarily because they prefer private schools to government schools. We recommend that the government provide capitation grants to children from low-income households attending LCPS. In the short run, there is a need for a recovery fund for LCPS, especially those that are at-risk of closure.

### KEYWORDS

COVID-19, education, informal settlements, low-cost private school, Nairobi

## **Exploring the Effects of the COVID-19 Pandemic on Low-Cost Private Schools in Nairobi, Kenya**

**Olivier Habimana**

*African Population and Health Research Center*

**Francis Kiroro**

*African Population and Health Research Center*

**John Muchira**

*African Population and Health Research Center*

**Aisha Ali**

*Center for Global Development*

**Catherine Asego**

*African Population and Health Research Center*

**Rita Perakis**

*Center for Global Development*

**Moses Ngware**

*African Population and Health Research Center; Center for Global Development, Non-Resident Fellow*

### **Corresponding authors**

Olivier Habimana (ohabimana@aphrc.org) and Rita Perakis (rperakis@cgdev.org)

The Center for Global Development is grateful for contributions from the Bill & Melinda Gates Foundation in support of this work.

Olivier Habimana, Francis Kiroro, John Muchira, Aisha Ali, Catherine Asego, Rita Perakis, Moses Ngware. 2022. "Exploring the Effects of the COVID-19 Pandemic on Low-Cost Private Schools in Nairobi, Kenya." CGD Working Paper 623. Washington, DC: Center for Global Development. <https://www.cgdev.org/publication/exploring-effects-covid-19-pandemic-low-cost-private-schools-nairobi-kenya>

### **CENTER FOR GLOBAL DEVELOPMENT**

2055 L Street, NW Fifth Floor

Washington, DC 20036

202.416.4000

[www.cgdev.org](http://www.cgdev.org)

Center for Global Development. 2022.

The Center for Global Development works to reduce global poverty and improve lives through innovative economic research that drives better policy and practice by the world's top decision makers. Use and dissemination of this Working Paper is encouraged; however, reproduced copies may not be used for commercial purposes. Further usage is permitted under the terms of the Creative Commons License. The views expressed in CGD Working Papers are those of the authors and should not be attributed to the board of directors, funders of the Center for Global Development, or the authors' respective organizations.

---

## Contents

<b>1 Introduction</b> .....	<b>1</b>
<b>2 Literature on the impact of COVID-19 on low-cost private schools</b> .....	<b>3</b>
<b>3 Survey design and methods of data analysis</b> .....	<b>4</b>
3.1 Survey design and sample selection .....	4
3.2 Instruments for data collection .....	5
3.3 Data analysis .....	6
<b>4 Findings and discussion</b> .....	<b>7</b>
4.1 Effect of COVID-19 on household income and demand for education .....	7
4.2 Effect of COVID-19 on schools and school strategies for coping .....	13
<b>5 Concluding remarks and policy implications</b> .....	<b>16</b>
<b>References</b> .....	<b>17</b>

---

# 1. Introduction

COVID-19 affected more than 1.6 billion of the world's school-going children through lockdowns, school closures, and learning loss from March 2020 (World Bank et al., 2021). In Kenya, about 15 million students in primary and secondary schools were affected by the closures (MoE, 2020). In urban informal settlements, a considerable proportion of the affected students were attending private schools. Urban informal settlements in Nairobi are home to about 60 percent of the 4,397,073 Nairobi city dwellers (KNBS, 2019; Alamanc, 2015). Primary school enrollment in private schools is approximately 14 percent in sub-Saharan Africa, 18 percent in Latin America, 31 percent in South Asia, and about 16 percent in Kenya (Crawford & Hares, 2021; MoE, 2016). Across urban India, as well as in Lagos, Nigeria; several Latin American capital cities; and Nairobi, Kenya, over half of school-going children attend private schools (Ngware et al., 2013; Zuilkowski et al., 2018).

Official statistics from Kenya show that 33 percent, 16 percent, and 8 percent of early childhood care and education, primary school, and secondary school enrollments, respectively, are in private schools, with a larger proportion in Nairobi's informal urban settlements (MoE, 2016). In Nairobi's informal settlements, where over 70 percent of the city's population resides, 63 percent of children in primary school attend nongovernment schools (Ngware et al., 2013). There are huge variations across geographic regions in Kenya, with a high concentration of private school enrollments in urban contexts.

In Kenya, institutions of basic education are categorized as either public or private as per the Basic Education Act 2013. Public schools are managed and largely funded by the government, whereas private schools mainly charge user fees to fund their operations. Globally, and more so in low- and middle-income countries such as Kenya, two parallel systems of private schools exist: high-cost schools for the elite and low-cost schools for the poor. This dichotomy is more prominent in urban contexts, where high-cost schools mainly serve populations living in upmarket estates or high-end neighborhoods and LCPS mainly serve populations living in low-income estates.

According to open school data, in Kibera, one of the largest informal settlements in sub-Saharan Africa, it is estimated that only four public primary schools are serving more than 55,000 school-age students, and the population of learners is exponentially growing because of reproduction and migration (Zuilkowski et al., 2018). Furthermore, the geographic distribution of the public schools within Kibera is not favorable, which results in the mushrooming of LCPS as a response to the demand in urban settings.

Globally, COVID-19 has greatly affected private schools and learners of low economic status who are mainly attending LCPS—a situation that is projected to affect private school enrollment (Alam & Tiwari, 2021). According to the Kenya Private Schools Association, about 4,000 schools closed because of the pandemic, a situation that has affected more than 56,000 students as the school premises were repurposed to shops, storage facilities, businesses, and residences (Voice of America,

2021). According to a survey commissioned by Financial Sector Deepening Kenya, in the last quarter of 2020 among private schools in Kenya, 74 percent of teachers were not paid during the first eight months after the onset of the pandemic, as parents<sup>1</sup> did not pay school fees while schools were closed (ADEA et al., 2021). Given this threat of permanent school closures brought on by the pandemic, an important question is, “What happens to these school-age children?” Anecdotal evidence points to the influx of children into public schools as a result of the pronouncement by the Ministry of Education that no learner should be denied access to schools after the reopening in January 2021 (Kihiu, 2021). With the economic shock and income loss caused by the COVID-19 pandemic and the consequent closure of some LCPS, we project that there will be a higher demand for public schools than available supply in Nairobi.

Previously, in Kenya, parents from low socioeconomic status have chosen to enroll their children in private schools, despite the costs, because of proximity and perceptions about the quality of education. However, with some schools being closed and others facing operational challenges, there is a likelihood of a shift to the already-stretched public schools serving thousands of learners in the informal settlements. As a result, some learners travel long distances between their home and the school that their parents can afford. Such travel poses a risk to learners, especially girls. The economic shocks of the COVID-19 pandemic had ripple effects on the existing patterns and could eventually lead to lower enrollment of the most vulnerable, such as girls and children from marginalized settlements. Moreover, since the new demand for public education was not expected and planned for, there will likely be a strain on resources and the quality of education.

LCPS are key actors in reducing the gap in the supply of education. Before the onset of COVID-19, over 60 percent of children in Nairobi’s informal settlements were enrolled in the Alternative Provision of Basic Education and Training (APBET) program (Ngware & Mutisya, 2021).<sup>2</sup> Closure of LCPS, therefore, implies that these low-income households must look for alternative schooling for their children—including moving the children to the public schools, which are already overcrowded because, in the case of primary schools, they are tuition free. Movement of students to public schools could complicate the quality of education. In Kenya, and especially in urban informal settlements, it is not clear how many schools have closed, how many children and teachers are affected, and what the future holds for those LCPS that could not reopen.

The broad objective of this study is therefore to explore the effects of the COVID-19 pandemic on LCPS markets in Nairobi, as well as the coping strategies that schools and households adopted in the face of the COVID-19 shock. Specifically, we seek to answer the following research questions: What have been the effects of the economic shocks created by the COVID-19 pandemic on households’ demand for education and school choice and on private school markets in low-resourced urban contexts, and what knock-on effects were experienced by public schools?

---

1 For brevity, we use “parents” to indicate “parents or guardians.”

2 In the present study, we use the term *low-cost private schools*, or LCPS, to refer to APBET schools.

---

## 2. Literature on the impact of COVID-19 on low-cost private schools

Since the onset of COVID-19, countries across the globe have reported varying magnitudes of school closures implemented to mitigate infections. School closures led to learning losses (Azzi-Huck & Shmis, 2020; Ehwi & Ehwi, 2021; World Bank, 2020). LCPS were hit hard, with reports indicating the permanent closure of some institutions because of learners' transfer to public schools, high dropout rates, and extensive financial losses incurred during lockdowns because LCPS rely heavily on school fees to support and sustain their operations, with little or no diversified sources of income (ADEA et al., 2021, 2022; Alam & Tiwari, 2021; Azzi-Huck & Shmis, 2020). A reduction or loss of income experienced by families—especially low-income families—and a subsequent reduction of funds available to support schooling because of economic strains occasioned by crises have been found to affect children's educational outcomes, including enrollment and performance (Owusu & Frimpong-Manso, 2020; Shafiq, 2010).

The economic effects of the pandemic are likely to further affect learning outcomes and increase inequalities in the education system. Given that LCPS generally hire contract and temporary teachers without the requisite teacher-professional training and pay them lower salaries than qualified teachers working in high-end private schools and public institutions (Alam & Tiwari, 2021; ADEA et al., 2022), lack of fees would hamper the capacity of these schools to hire and retain qualified teachers. Notably, the economic effects of COVID-19 have direct implications not only on salary reductions but also on the number of qualified teachers and, consequently, the quality of education. The pandemic might have more of a ripple effect on LCPS that are already struggling, compared with public schools where most teachers are hired permanently (Carvalho & Hares, 2020).

A study conducted in five informal settlements in Nairobi indicated that 80 percent of households lost income during the pandemic, which creates ripple effects among different populations, including girls and other vulnerable groups, and on the government's capacity to provide educational support. Because the length of time economies might need to recover from the crisis is unknown (Carvalho & Hares, 2020; Population Council, 2020), assessing the effect of income loss on parents' school choice and on the supply of schools available is paramount. Globally, the pandemic could further impoverish already-struggling households because of a decline in employment opportunities during the pandemic (Gentilini et al., 2020; Montenovolo et al., 2020; Janssens et al., 2021). Especially in low-income families, a significant reduction or loss of income has an effect on children's educational outcomes, including enrollment and performance (Janssens et al., 2021; Owusu & Frimpong-Manso, 2020; Shafiq, 2010). Evidence from past crises point to increased financial burdens on families as a result of tough economic times and, consequently, the inability of families to send children to school (Carvalho & Hares, 2020). According to the World Bank (2020), public education spending fell during the Ebola epidemic in Sierra Leone between 2014 and 2017. With respect to the COVID-19 pandemic, education spending is forecast to stagnate in most countries and fall in some even after we witness a return to economic growth (Al-Samarrai et al., 2020).

The COVID-19 pandemic led to education market distortions, creating a major risk of learning loss for millions of learners from households at the bottom of wealth distribution, who are more predisposed to attend LCPS (Ochieng & Ngware, 2022). Learners attending LCPS have fewer opportunities to study at home, unlike their counterparts in well-established, high-end private schools. Such learners prolonged out-of-school experiences further exacerbate the already-dwindled learning opportunities in these marginalized settings, including related quality learning in these learning spaces (Zuilkowski et al., 2018; Baum et al., 2018; Doyle, 2020). Furthermore, few countries were fully prepared to adopt educational technology as an alternative teaching and learning platform, possibly because of varying levels of access to learning-enabling technologies such as television, radio, tablets, computers, internet, and smartphones at the household, school, and community levels (ADEA et al., 2022; Ochieng & Ngware, 2022). COVID-19 likely instigated many school closures, and permanent closures of LCPS could erode hard-won gains in the education space, including reversal and stagnation of inclusive and quality education provision (Kathule, 2020). Loss of schools may eventually lead to further human capital reduction, with corresponding reduced economic opportunities in most economies. Survey design and methods of data analysis

---

### 3. Survey design and methods of data analysis

#### 3.1 Survey design and sample selection

The present study used a descriptive research design with cross-sectional data. The data were collected from August to October 2021.<sup>3</sup> The questions relating to the period before COVID-19 were answered on the basis of memory recall, available records, or both.

We used the United Nations Statistics Division's handbook *Designing Household Survey samples: Practical Guidelines* (UN, 2008) in determining the sample size for the study. We sent enumerators into the field, and they listed 4,060 eligible households with at least one school-going child between the ages of 6 and 18 years<sup>4</sup> in each of the four informal settlements studied (Kibera, Korogocho, Mathare, and Viwandani).<sup>5</sup> We estimated the proportion of households with primary and secondary school-going children enrolled in private schools within the study area to be about 50 percent at a confidence interval of 95 percent. We assumed a margin of error of 5 percent and anticipated a 30 percent nonresponse and attrition rate as a result of migration because of COVID-19, government measures on restrictions of movement, and economic hardships such as loss of employment. The 30 percent nonresponse and attrition rate was estimated on the basis of previous experience in studies conducted in the Nairobi informal settlements. We estimated an average household size of 2.9 in

---

3 The schools were closed because of the COVID-19 pandemic on March 16, 2020, and fully opened on January 4, 2021.

4 Individuals aged 18 or older would be considered young adults, but in this study we consider them as schoolchildren if they were in school or dropped out of school during the COVID-19 period.

5 To balance between costs and sample efficiency (in terms of household representation), the enumerator identified every tenth household from the point where the footpath connected with the service road. The household was eligible if it had at least one school-age child who was enrolled in school before the COVID-19 school closures.

accordance with the 2019 census for Nairobi City County and an assumed design effect of 2.0. On the basis of those parameters, our household sample was determined to be 883. During listing, two of the inclusion criteria were that (a) the household must have at least one child age 6 to 18 years and (b) the household must have resided their location since early 2020, before the COVID-19 pandemic began, so that survey respondents could describe experiences both before and during COVID-19 after full school reopening. We chose the age range because it includes both primary and secondary school-going ages, with the official age of primary school students being 6 to 13 years and that of secondary school students being 14 to 17 years. We added one more year to take into account late school entry, as well as the COVID-19 disruption and its consequent delay for learners at the age of basic education completion. Following listing of all potential households, we applied a probability proportionate to size approach to randomly select households by putting into consideration the informal settlement, village, household head's sex, and household size to ensure the representativeness of the selected households. The number of selected households from each informal settlement are presented in table 3.1.

**Table 3.1. Sample distribution**

Informal settlement	N	Share (%)	Number of villages
Kibera	338	38.3	15
Viwandani	202	22.9	14
Mathare	175	19.8	13
Korogocho	168	19.0	9
Total	883	100.0	51

For the institutional (school) survey, we targeted all primary and secondary schools (from various categories, including private, public, and community owned) that were in operation before the COVID-19 school closures and still in operation at the time of the survey. We reached 471 schools, which had a response rate of 96.9 percent (47 stand-alone preprimary schools, 366 primary (or combined preprimary and primary schools), 55 secondary schools, and 3 special schools). In addition, 24 schools that were permanently closed were identified via snowball sampling for specific questions for this category of schools.

### 3.2 Instruments for data collection

The data were collected from four low-resourced urban informal settlements in Nairobi: Korogocho, Viwandani, Mathare, and Kibera. We administered three different questionnaires targeting (a) households, (b) operating institutions (i.e., schools operating at the time of the survey), and (c) schools that were permanently closed. In addition, qualitative data information was gathered from key informants.

We used the household questionnaire to collect information on household characteristics, including learners' characteristics and schools they attended before COVID-19 and after reopening. These



questions served to discover the demand for LCPS before COVID-19 and after school reopening. Enumerators interviewed the household head or spouse of the household head. The household tool was administered in Kiswahili language and in person.

We administered the institutional questionnaire to collect information on school characteristics and strategies schools adopted to cope with the effects of COVID-19. The head teacher, the deputy, or the school proprietor—in case of private institutions—responded to the questions. The institutional tool was administered through face-to-face interviews.

The last survey questionnaire targeted schools that permanently closed because of the COVID-19 pandemic. These schools were identified through various means. First, a list of permanently closed schools and their owners was obtained from the APBET association. We also added a question in the institutional questionnaire requesting that head teachers share details of any permanently closed schools in their neighborhoods that they knew about. Finally, we used snowballing, where respondents for permanently closed schools were requested to share details of any other permanently closed schools they knew about. This tool, which was administered via phone, collected information on school characteristics, enrollment before and during COVID-19, and different coping mechanisms adopted in the face of the COVID-19 pandemic.

Qualitative data were gathered through key informant interviews (KIIs) with educational stakeholders. These data were used to triangulate the feedback obtained from the quantitative data, considering that some of the targeted audience were key education decision makers with in-depth and diverse knowledge in the study area. The KIIs were conducted with the district and subcounty education officers, quality assurance officers, head teachers, and other local administrators and village elders. The information on coping mechanisms obtained from the qualitative study provided complementary evidence. More qualitative responses that informed this report were provided during a findings validation workshop with study participants, LCPS association members, selected decision makers from civil society organizations, local administrators, and Ministry of Education officials.

### 3.3 Data analysis

We incorporated descriptive analysis, followed by a nonparametric test for paired observations, in reference to the period before and during COVID-19. We began by defining the McNemar-Bowker test (Bowker, 1948), a nonparametric test for paired categorical data. The test was conducted on paired observations—that is, for each learner, we obtained information on the school attended before and during COVID-19, after full school reopening. This test follows a chi-squared distribution and was applied to investigate whether, because of COVID-19, there was a shift in school choice, from public to private or vice versa. Two test statistics are reported: the asymptotic symmetry and the marginal homogeneity (Agresti, 2018, p. 245). In a  $2 \times 2$  contingency table (association between two dichotomous variables; see table 3.2.), the two tests are equivalent.

**Table 3.2. Contingency table for school choice before COVID-19 and after school reopening**

School attended before COVID-19	School attended after full school reopening	
	Private (A)	Public (B)
Private (A)	$F^{AA}$	$F^{AB}$
Public (B)	$F^{BA}$	$F^{BB}$

Note:  $F^{AA}$  = number of learners who were in private schools before COVID-19 and stayed in private schools;  $F^{BA}$  = number of learners who were in public schools before COVID-19 but transferred to private schools after school reopening;  $F^{AB}$  = number of learners who were in private schools before COVID-19 but transferred to public schools after school reopening;  $F^{BB}$  = learners who were in public schools before COVID-19 and stayed in public schools.

Axial symmetry implies that in a  $2 \times 2$  contingency table, the following equation holds for expected number of learners  $F_{ij}$ :

$$F_{ij}^{AB} = F_{ji}^{AB} \quad \text{for all } i > j,$$

where  $A$  denotes the row (school choice before the COVID-19 pandemic) and  $B$  denotes the column (school choice after full school reopening). Intuitively, if changes are symmetric, then the marginal distributions remain the same (Von Eye & Spiel, 1996).

## 4. Findings and discussion

### 4.1 Effect of COVID-19 on household income and demand for education

Results presented in table 4.1 indicate that overall at least 96 percent of the households studied reported that their income was negatively affected by COVID-19 containment measures across the four informal settlements. There were no significant differences between male-headed (97.8 percent) and female-headed (96.4 percent) households with respect to their income change before and after the onset of the pandemic. Our findings align with evidence from other research conducted shortly after the onset of COVID-19 in low-income rural and urban contexts in Kenya, with one study indicating that 80 percent of households lost income because of the effects of the pandemic, according to data collected in five informal settlements in Nairobi (Population Council, 2020; Janssens et al., 2021).

**Table 4.1. Effect of COVID-19 on household income**

	Kibera (n = 338)	Mathare (n = 175)	Korogocho (n = 168)	Viwandani (n = 202)	Total (n = 883)
Remained about the same	1.8	1.7	3.6	2.5	2.3
Decreased	97.3	97.7	96.4	97.5	97.3
Increased	0.9	0.6	0.0	0.0	0.5
Total	100	100	100	100	100

Female-headed households in urban low-income contexts have experienced lower income because wages paid to women primarily come from the informal economy, women have higher unemployment rates, and a higher proportion of women either do not participate in the labor force or engage in unpaid labor (Goebel et al., 2010; Posel & Rogan, 2009; Flatø et al., 2017). Although the magnitude of the effect of COVID-19 on the actual employment rate is not clear in Kenya, it is evident that the proportion of both female and male household heads who were employed remained very low between May and September 2021, and slightly improved between September and the end of 2021 (Janssens et al., 2021).

### *Job loss from COVID-19*

For further investigation of the effect of COVID-19 on household incomes, working-age residents in the four informal settlements were asked whether they had lost employment because of the pandemic. Results indicate that at least 69 percent of the working-age population in Kibera, Mathare, and Viwandani lost their jobs. Job loss was highest in Kibera (77.5 percent), followed by Mathare (70.7 percent) and Viwandani (68.3 percent); job loss was only 50.5 percent in Korogocho. In Korogocho, almost two fifths (39.9 percent) of the respondents are in self-income-generating activities, and a further 53.6 percent are in casual employment; only 1.2 percent are in salaried employment, which explains why the loss of employment as a result of COVID-19 was lower in Korogocho than in the other informal settlements.

The negative effects of the pandemic on employment opportunities coupled with the persistent higher unemployment rate because of business closures reduced incomes within the formal and informal economic sectors. These effects could have a ripple effect on schooling access and choices (Gerszon Mahler et al., 2020; Gentilini et al., 2020; Janssens et al., 2021; Montenovio et al., 2020). Job loss was different in Korogocho, where only 44 percent of respondents lost their jobs as a result of the COVID-19 mitigation measures. In line with our findings, Pinchoff et al. (2021) conducted a study on mobility in Nairobi informal settlements during the pandemic and found that residents in these informal settlements travel long distances to work and use, as expected, public transportation. This finding implies that when movement was restricted, though people were encouraged to work from home, a proportion of household heads in informal settlements lost their low-skilled jobs.

Moreover, because providing labor constitutes the main source of income for informal settlement residents, job loss affects their purchasing power directly, including the ability to pay for the education of their children. The expectation is that because of a negative household income shock, parents would be likely to send their children to schools they can afford. School transfer attributable to household income loss is expected to be more pronounced at the primary school level. That is, affected parents whose children were in private primary schools before COVID-19 would be likely

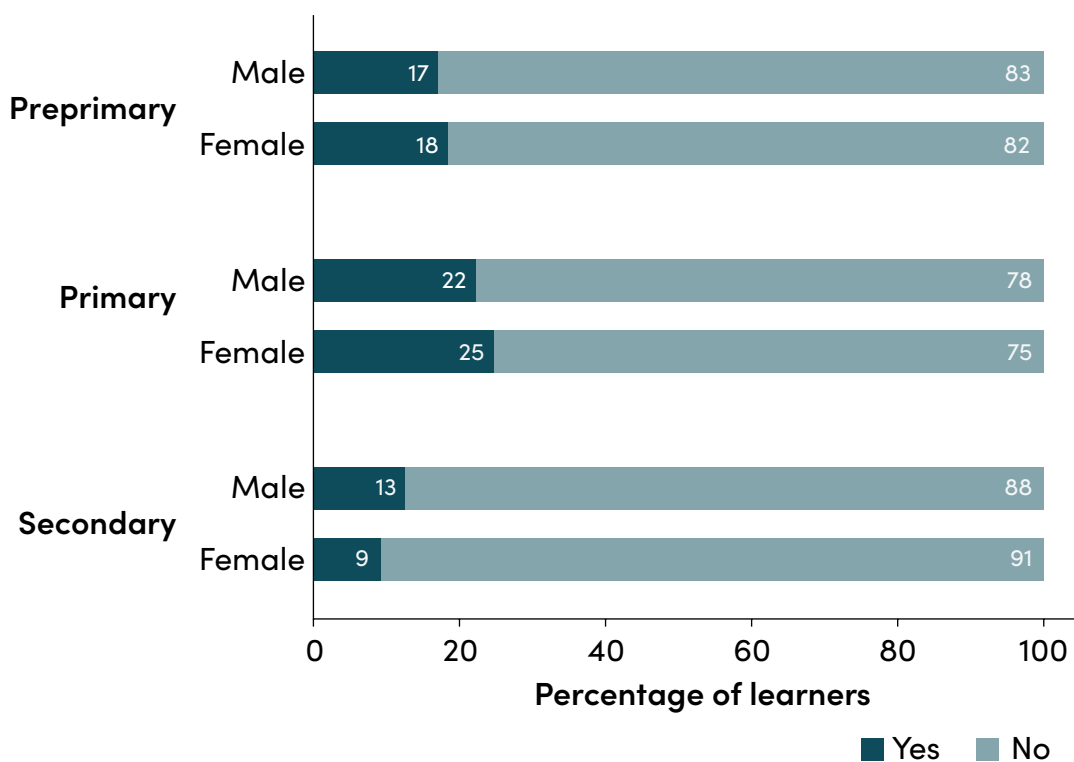
to send them to public primary schools, which are free. However, this decision would depend on the availability of public primary schools in the settlements, and other reasons could be at play as well.<sup>6</sup>

### Changing schools because of COVID-19

Figure 4.1 shows that changing schools because of COVID-19 differed by level of schooling. Although one in four learners in primary school changed schools, the proportion was lower in preprimary schools and lowest in secondary schools. Interestingly, although more girls than boys—a two percentage point difference—changed schools at the primary and preprimary levels, the opposite is observed at the secondary level, where 9 percent of girls versus 12 percent of boys changed schools.

We further conducted a chi-squared test to investigate whether the observed differences depicted in figure 4.1 are statistically significant. The p-values are 0.795 for preprimary, 0.279 for primary, and 0.336 for secondary. The observed differences between girls and boys are therefore not statistically significant. There is no evidence that either gender was affected differently.

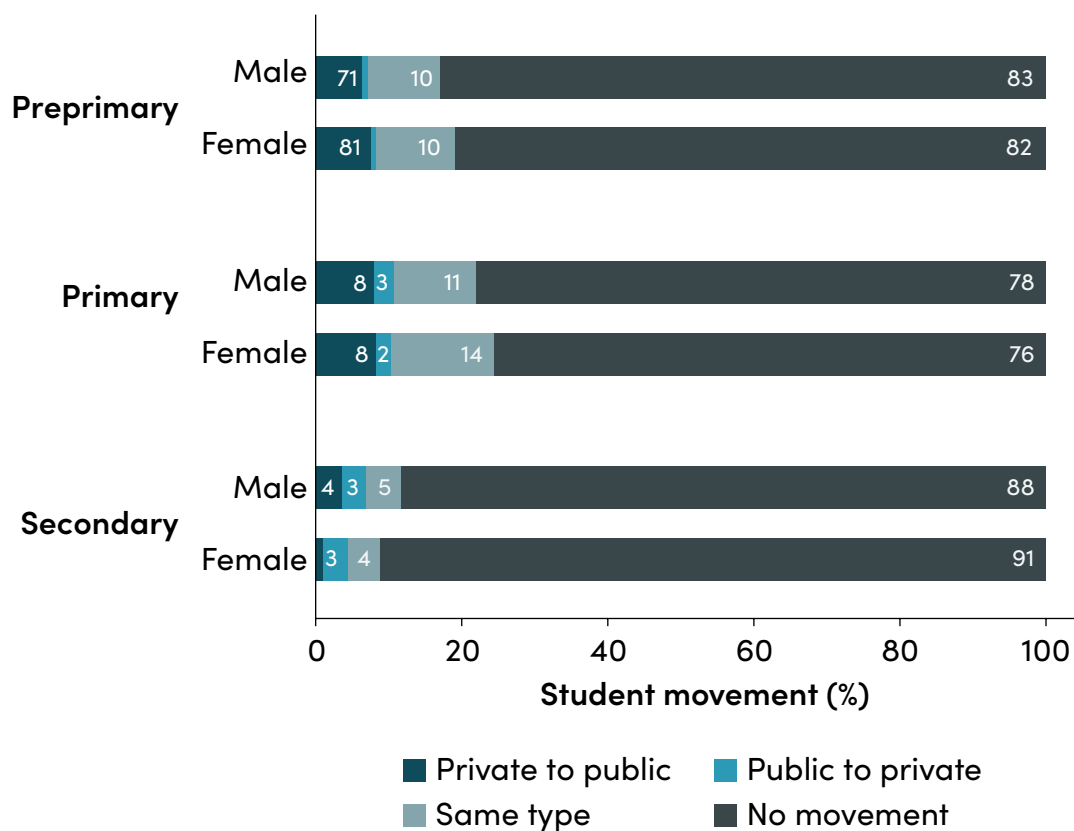
**Figure 4.1. Percentage of learners who changed schools because of COVID-19**



<sup>6</sup> During the results validation meeting that was conducted in July 2022, representatives of parents indicated that public primary schools are not really that free, because some of these schools charge higher admission fees. It is therefore possible that given the admission fees plus the cost of transportation—because public schools may be far from a student’s home—as well as other costs, some parents may find LCPS relatively cheap.

Transfers from one school type to the other, as figure 4.2 shows, did not significantly differ by gender. School transfer was higher from private to public schools than from public to private schools, and it was more pronounced at the primary school level than at the secondary level. The cost of schooling was a major factor influencing movements from private to public schools or to other less costly private schools. In addition, the fact that some private schools were permanently closed left some parents with no other option but to send their children to public schools or to the remaining private schools. It is worth mentioning that at the time of this study, it was at the beginning of a new academic year and, hence, there were grade transitions. In the case of learners transitioning from the primary level to the secondary level, most households could be expected to prefer to enroll their children in public secondary schools. Moreover, in Kenya, public secondary schools account for 85.2 percent of the total number of secondary schools in 2019 (MoE, 2019).

**Figure 4.2. Student movement after school reopening**



*Note:* Same type consists of learners who transferred from one public school to another public school and learners who transferred from one private school to another private school. Detailed proportions are as follows. At the primary school level: private to public, 8.3 percent; public to private, 2.4 percent; public to public, 8.1 percent; and private to private, 4.6 percent. At the secondary school level: private to public, 2.5 percent; public to private, 3.2 percent; public to public, 3.5 percent; and private to private, 1.1 percent.

Furthermore, we investigated whether the observed change in school choice (public vs. private) is statistically significant. Table 4.2 indicates that when primary and secondary levels are combined, 5.5 percent of students from our sampled households (44/806) moved from public to private schools, whereas 13.4 percent (139/1,036) of learners moved from private to public schools, indicating there was higher preference to transfer learners from private schools to more affordable public schools that were generally supported by the government capitation funds. Head teachers interviewed at both the primary and secondary school levels, as well as community leaders, argued that COVID-19 affected parents' capacity to pay private school fees, so some of parents transferred their children to public schools. For this reason, those interviewed recommended that the government consider providing capitation grants to learners enrolled in private schools. According to these stakeholders, every child has the right to equal access to educational opportunities, and capitation grants would make education more affordable to those who choose to attend privately owned institutions. They note that provision of such grants is the practice for university education, where even those learners enrolled in private universities benefit from government funding.

**Table 4.2. Cross tabulation of school choice before and during COVID-19**

Before COVID-19	During COVID-19 (after school reopening)		
	Public	Private	Total
Public	762	44	806
Private	139	897	1,036
Total	901	941	1,842

The McNemar-Bowker test was performed to test the null hypothesis that school choice does not differ before and during COVID-19 (i.e., the observed changes are random). Specifically, we wanted to test whether there was a shift in private versus public school choice as a result of COVID-19. For each learner, we obtained information on the type of school attended before and after school reopening. The computations focus on those learners who changed either from private to public school or vice versa. Results indicate that the two tests (homogeneity and symmetry) are highly significant, with a chi-squared statistic of 49.32 and a p-value of <0.001. Therefore, the observed differences in school choice before and amid COVID-19 indicate a shift in school choice, whereby constrained parents opted for public schools rather than private ones. A caveat should be applied while interpreting these results because the numbers involved in movement between public and private schools are relatively small.

### ***Learners who did not go back after school reopening***

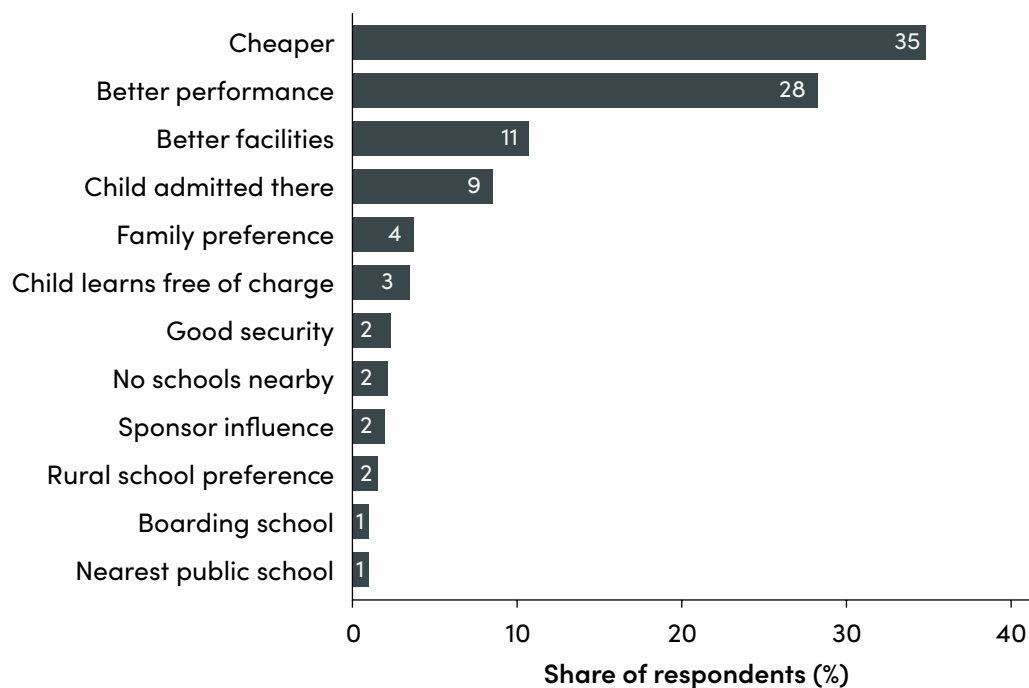
The discussion so far has looked at mobility of learners changing schools. However, there is another group of 19 learners who were enrolled before COVID-19 but did not return to school after reopening. This group represents 1 percent of children ages 6 to 18 years. Two of these children were of primary

school age (9 years old), whereas 17 (89.5 percent) were of secondary school age (14 to 18 years old) and within the adolescent age group. The proportion of dropouts by study sites was slightly higher in Kibera and Korogocho (over 1 percent), whereas Mathare and Viwandani recorded less than 1 percent. The proportion of dropouts was 1.1 percent among boys and 0.9 percent among girls, and the difference is not statistically significant. Moreover, we found that 47.4 percent of school dropouts came from the poorest wealth tertile. At the time of the present study, 1.2 percent of children were at home transitioning to higher levels of schooling (i.e., secondary and tertiary levels). There was also a proportion of 2.7 percent who were not in school, mainly because of lack of school fees. Among those in transition to secondary schools, one of the main reasons they had not joined the schools was lack of school fees and other costs involved in joining secondary schools.

### Parental perceptions of school fees during COVID-19

Parents were asked to compare school fees before COVID-19 and after school reopening. A high proportion of parents (69.4 percent) indicated that school fees were higher than before, whereas the cost remained the same or decreased for 25.0 percent and 5.5 percent, respectively. The increase in school fees may be partly due to additional costs, such as setup of handwashing areas, water bills, and other costs to implement the guidelines against the spread of COVID-19 in schools. As figure 4.3 shows, school fees constitute a key factor in choosing schools; parents did send learners to a school far away because it was cheap (35 percent). Other reasons given include performance (28 percent) and the quality of school facilities (11 percent).

**Figure 4.3. Reasons for attending school far away, during COVID-19**



## 4.2 Effect of COVID-19 on schools and school strategies for coping

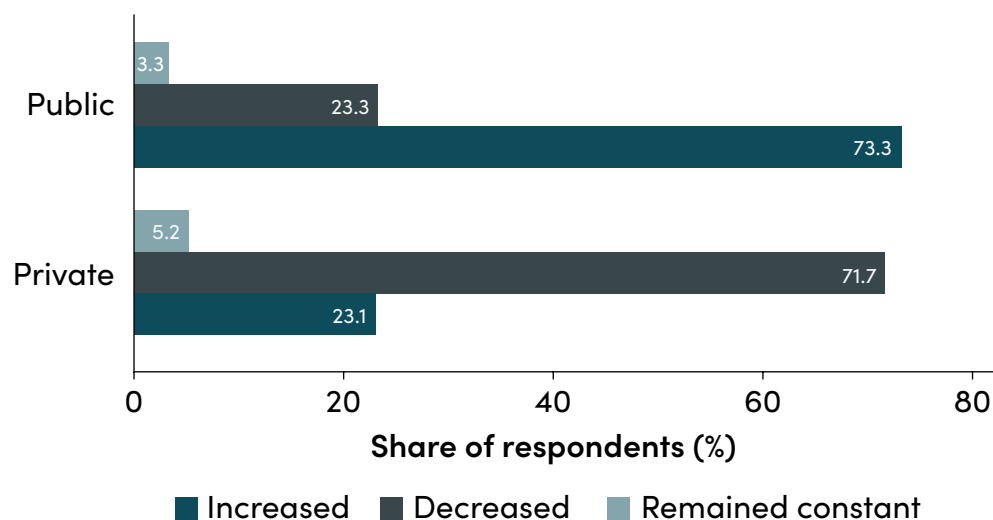
### *School closure and the affected boys and girls across levels*

When school closure came to an end, some schools had been severely hit financially and could not therefore reopen. In the four informal settlements, we were able to collect information about 24 private schools that had closed permanently. These schools had 3,374 learners at the preprimary, primary, and secondary levels. Around 52 percent of these learners were girls. The household survey captured 18 learners who transferred after school reopening because their previous school had permanently closed. The majority (78 percent) of these learners had been in primary school. Among learners whose school permanently closed, 7 (39 percent) transferred to public schools, and the 11 remaining went to other private schools. This finding again indicates—given that closed schools were private—the shift from private to public schools, especially at the primary school level.

### *Changes in enrollments after school reopening*

After school reopening, schools experienced changes in enrollments. As figure 4.4 shows, 72 percent of private schools, at both the primary and secondary levels, indicated that they experienced a decrease in enrollments. Interestingly, the proportion of private schools that declared a decrease in enrollment and the proportion of public schools that indicated an increase in enrollment are more or less the same,<sup>7</sup> which corroborates findings from households indicating that COVID-19 disrupted education markets, creating a significant shift in demand from private to public schools.

**Figure 4.4. Changes in school enrollment during COVID-19**



Note: The figure shows responses by school heads, so it may not capture the magnitude of the actual increase or decrease in enrollments.

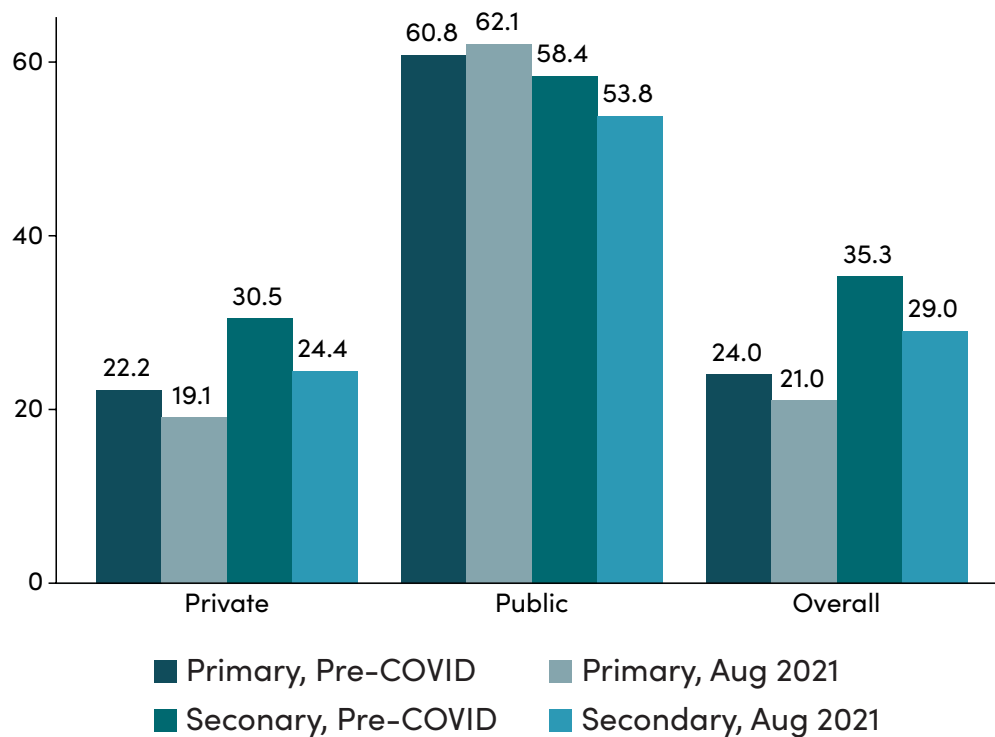
<sup>7</sup> It is worth mentioning, however, that data were collected from 439 private schools and only 30 public schools.



## Average class size

There was a slight decrease in the average classroom size overall before COVID-19 school closures and the headcount that was done in August 2021 at both the primary and secondary school levels (figure 4.5). This decrease could be attributed to dropouts and transfers to schools outside the four informal settlements. Increased enrollment in public schools introduced the risk of increasing already-large student-teacher ratios, but this did not prove to be the case. At the primary level, class size decreased slightly in private schools and remained relatively stable in public schools (increase from an average of 58.8 to 59.7 students). At the secondary level, class size actually decreased in public schools, from 54.9 to 49.3 students on average, and decreased by similar numbers in private schools.

**Figure 4.5. Class size before COVID-19 and after school reopening**



## Remuneration of teachers during school closures

The economic effects of COVID-19 hit private schools hard, making it daunting to remunerate teachers. Although no public schools failed to pay some or all of their teaching staff, three-quarters of private school institutions reported that they could not pay any of their teachers during the school closure period. Considering that most public school teachers are on permanent employment through the Teachers Service Commission, almost three-quarters of the schools paid all their teachers, with just about a quarter of the schools indicating they did not pay some of their teachers. A majority of the public school teachers who were unpaid taught in secondary schools, where some are employed

by the board of management on a contract basis. With contract and temporary employment characterizing the LCPS labor force in contrast to the permanent form of employment in public schools (Carvalho & Hares, 2020), the majority of private schools (74 percent) did not pay any of their teachers, as mentioned previously. Only about 20 percent of LCPS managed to remunerate all their teachers, and just 5 percent of the schools paid some of their teachers during the long school closure. Given that private schools struggled to remunerate their teachers during the school closure, after reopening, 8 percent of them hired untrained teachers, who are paid approximately half the salary of trained teachers. Discussions with the education officers during the KIIs indicated that most private institutions hired untrained teachers or teachers who were undergoing training but were not yet registered with the Teachers Service Commission, because such teachers do not demand high salaries and thus cut down on the cost of school operation. This coping strategy could have an effect on the quality of education and learning outcomes in private schools.<sup>8</sup>

Results in table 4.3 indicate that apart from hiring cheap teachers, some private schools also increased school fees. Although, because of government regulations, none of the public schools increased fees,<sup>9</sup> nearly 22 percent of private schools charged higher fees at school reopening. However, a similar proportion (approximately 20 percent) of private schools charged lower fees than before school closure. One high school principal suggested that fee reduction was one of the strategies put in place to promote reenrollment after schools reopened, to the extent of providing a 50 percent discount to some students or asking them to pay what they could afford for the moment to support school operations.

**Table 4.3. Proportion of schools that had fee changes after reopening**

	Public	Private
Higher fees than before	0.0	21.8
Lower fees than before	7.7	19.9
Same fees as before	92.3	58.3

These dynamics indicate the disruption of the LCPS markets by the COVID-19 pandemic. LCPS faced a dual dilemma: loss in school fees because of defaults<sup>10</sup> and a reduction in enrollments. Given the lower demand (reduced enrollments) among LCPS owing to the reduced income of parents, for these schools to attract learners and compete with other private institutions—and thus stay in operation—lowering fees became imperative.

8 Previous studies, such as Kunje and Stuart (1999) and Kanu (1996), link untrained teachers to low quality of education in developing countries.

9 This statement does not concern primary schools because public primary education is free in Kenya (financed by taxes).

10 During the results validation meeting, it was highlighted that rent arrears and the relocation of parents and their learners to rural areas as a result of the economic hardships caused by COVID-19 were also reasons that led to the permanent closure of these schools.

---

## 5. Concluding remarks and policy implications

The aim of this study has been to investigate the extent to which COVID-19 disrupted the supply and demand of low-cost private education in four informal settlements in Nairobi. We employed a mixture of quantitative and qualitative approaches. Several conclusions and recommendations emerge from our findings.

Measures to contain the spread of COVID-19 significantly affected sources of income for households. Their purchasing power, including the ability to pay for the education expenses of their children, was significantly reduced. Income losses were mainly associated with job losses, especially in the informal sector, and job loss affected almost two in every three working-age adults in the study areas. Overall, there is evidence of a shift in demand from private schools to government schools. This shift either is due to permanent closure of LCPS or represents a coping mechanism by households that experienced losses in income and, hence, transferred their children to the cheaper government schools. The impact was different for primary and secondary school learners. The shift from LCPS to government schools was more pronounced at the primary school level, which is an expected finding given that government primary schools do not charge school fees. However, it was not an easy shift for the households affected considering that there are very few government schools in the informal settlements. For the families involved, moving to public schools entailed, among other things, finding enrollment space, traveling long distances, and moving to rural areas.

On a positive note, back-to-school measures in Kenya seem to have worked well in the study areas, with a small proportion (6 percent) indicating that they could not go back to school, mainly because of financial difficulties. The children most affected were those transitioning from primary schools (eighth grade) to secondary schools (ninth grade) because the transition to secondary schools comes with a higher initial cost, including full uniform, boarding or transport costs, and other charges levied by secondary schools. Some schools, especially LCPS, raised fees after school reopening, leading to the transfer or the nonreturn to school of some children.

A number of LCPS could not cope financially. LCPS lost revenues from school fees. They lost good teachers as well because they could not pay teachers during school closure. Moreover, when schools reopened, some LCPS saw a significant reduction in enrollments and thus struggled to meet their operation costs. As a result, several LCPS closed permanently, and learners had to transfer to other schools.

Building on our findings, we recommend the following: First, because increasing urbanization has resulted in an increase in population within the informal settlements, the government of Kenya should build more classrooms to increase the spaces in the public schools available within and around the informal settlements. Second, given that, especially in the informal settlements, LCPS play an important role in closing the gap in education supply, the government of Kenya should put in place a mechanism to assist these schools financially to survive the consequences of the COVID-19

pandemic and similar shocks in the future. Such a mechanism could be in the form of a recovery fund for LCPS, especially those that are at risk of closure. Most importantly, we recommend that the government provide capitation grants to children attending LCPS from low-income households.

---

## References

- Agresti, A. (2018). *An introduction to categorical data analysis*. John Wiley & Sons.
- Alam, A., & Tiwari, P. (2021). Implications of COVID-19 for low-cost private schools. *UNICEF Issue Brief 8*. [https://www.unicef.org/globalinsight/media/1581/file/UNICEF\\_Global\\_Insight\\_Implications\\_covid-19\\_Low-cost\\_Private\\_Schools\\_2021.pdf](https://www.unicef.org/globalinsight/media/1581/file/UNICEF_Global_Insight_Implications_covid-19_Low-cost_Private_Schools_2021.pdf)
- Alamanc, S. (2015). *Slum almanac 2015/2016: Tracking improvement in the lives of slum dwellers*. UN-Habitat. [https://unhabitat.org/sites/default/files/documents/2019-05/slum\\_almanac\\_2015-2016\\_psup.pdf](https://unhabitat.org/sites/default/files/documents/2019-05/slum_almanac_2015-2016_psup.pdf)
- Al-Samarrai, S., Gangwar, M., & Gala, P. (2020, May). *The impact of the COVID-19 pandemic on education financing*. World Bank. <https://openknowledge.worldbank.org/handle/10986/33739>
- Association for the Development of Education in Africa (ADEA), Africa Union's Centre for Girls' and Women's Education in Africa (AU/CIEFFA), & African Population and Health Research Center (APHRC). (2021). *School reopening in Africa during the COVID-19 pandemic*. ADEA, AU/CIEFFA, APHRC.
- Association for the Development of Education in Africa (ADEA), Africa Union's Centre for Girls' and Women's Education in Africa (AU/CIEFFA), & African Population and Health Research Center (APHRC). (2022). *Teacher training and support in Africa during the COVID-19 pandemic*. ADEA, AU/CIEFFA, APHRC. [https://www.adeanet.org/sites/default/files/publications/teacher\\_training\\_and\\_support\\_kix\\_observatory.pdf](https://www.adeanet.org/sites/default/files/publications/teacher_training_and_support_kix_observatory.pdf)
- Azzi-Huck, K., & Shmis, T. (2020, March 18). Managing the impact of COVID-19 on education systems around the world: How countries are preparing, coping, and planning for recovery. *World Bank Blogs*. <https://blogs.worldbank.org/education/managing-impact-covid-19-education-systems-around-world-how-countries-are-preparing>
- Baum, D. R., Cooper, R., & Lusk-Stover, O. (2018). Regulating market entry of low-cost private schools in Sub-Saharan Africa: Towards a theory of private education regulation. *International Journal of Educational Development*, 60, 100–112.
- Bowker, A. H. (1948). A test for symmetry in contingency tables. *Journal of the American Statistical Association*, 43(244), 572–574.
- Carvalho, S., & Hares, S. (2020, October 13). What do past shocks tell us about the choices we'll face after the pandemic? A series on education finance post-COVID. *Center for Global Development Blog*. <https://www.cgdev.org/blog/what-do-past-shocks-education-finance-tell-us-about-choices-well-face-after-covid>
- Crawford, L., & Hares, S. (2021, December). The impact of private schools, school chains, and public-private partnerships in developing countries. *CGD Working Paper 602*. <https://www.cgdev.org/publication/impact-private-schools-school-chains-and-public-private-partnerships-developing>
- Doyle, O. (2020). *COVID-19: Exacerbating educational inequalities?* Public Policy.IE. <https://publicpolicy.ie/papers/covid-19-exacerbating-educational-inequalities/>
- Ehwi, L. J., & Ehwi, R. J. (2021). Covid-19 and school closure: Examining the impact on private mid-range and low-fee private basic schools in Ghana. *Prospects*. <https://doi.org/10.1007/s11125-021-09579-1>
- Flatø, M., Muttarak, R., & Pelsler, A. (2017). Women, weather, and woes: The triangular dynamics of female-headed households, economic vulnerability, and climate variability in South Africa. *World Development*, 90, 41–62.
- Gentilini, U., Almenfi, M., Orton, I., & Dale, P. (2020). *Social protection and jobs responses to COVID-19: A real-time review of country measures (April 17, 2020)*. World Bank
- Gerszon Mahler, D., Lakner, C., Castaneda Aguilar, R. A., & Wu, H. (2020). The impact of COVID-19 (coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit. *World Bank Blogs*. <https://blogs.worldbank.org/opendata/impact-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest>
- Goebel, A., Dodson, B., & Hill, T. (2010). Urban advantage or urban penalty? A case study of female-headed households in a South African city. *Health and Place*, 16(3), 573–580.
- Janssens, W., Pradhan, M., de Groot, R., Sidze, E., Donfouet, H. P. P., & Abajobir, A. (2021). The short-term economic effects of COVID-19 on low-income households in rural Kenya: An analysis using weekly financial household data. *World Development*, 138, Article 105280.
- Kanu, Y. (1996). Educating teachers for the improvement of the quality of basic education in developing countries. *International Journal of Educational Development*, 16(2), 173–184.
- Kathule, D. N. (2020). Effect of COVID-19 pandemic on the education system in Kenya. *Journal of Education*, 3(6), 31–52.

- Kenya National Bureau of Statistics (KNBS). (2019, November). *Kenya population and housing census, volume I: Population by county and sub-county*. KNBS. <http://housingfinanceafrica.org/app/uploads/VOLUME-I-KPHC-2019.pdf>
- Kihiu, N. (2021, January 4). Magoha says schools reopening largely successful after huge turnout. *Capital News*. <https://www.capitalfm.co.ke/news/2021/01/magoha-says-schools-reopening-largely-successful-after-huge-turnout/>
- Kunje, D., & Stuart, J. (1999). Supporting untrained teachers in Malawi. *International Journal of Educational Development*, 19(2), 157–166.
- Ministry of Education (MoE). (2016). *2016 Basic education statistical booklet*. Republic of Kenya. <https://www.scribd.com/document/478631787/Basic-Education-Statistical-Booklet-2016>
- Ministry of Education (MoE). (2019). *Basic education statistical booklet, 2019*. Republic of Kenya. <https://africacheck.org/sites/default/files/Kenya-Basic-Education-Statistical-Booklet-2019.pdf>
- Ministry of Education (MoE). (2020). *Kenya basic education covid-19 emergency response plan*. Republic of Kenya [https://planipolis.iiep.unesco.org/sites/default/files/ressources/kenya\\_emergency\\_response\\_plan\\_4\\_may\\_2020.pdf](https://planipolis.iiep.unesco.org/sites/default/files/ressources/kenya_emergency_response_plan_4_may_2020.pdf)
- Montenovo, L., Jiang, X., Rojas, F. L., Schmutte, I. M., Simon, K. I., Weinberg, B. A., & Wing, C. (2020). Determinants of disparities in covid-19 job losses. NBER Working Paper 27132. <https://www.nber.org/papers/w27132>
- Ngware, M. W., Abuya, B., Admassu, K., Mutisya, M., Musyoka, P., & Oketch, M. (2013, October). *Quality and access to education in urban informal settlements in Kenya*. African Population and Health Research Center.
- Ngware, M. W., & Mutisya, M. (2021). Demystifying privatization of education in Sub-Saharan Africa: Do poor households utilize private schooling because of perceived quality, distance to school, or low fees? *Comparative Education Review*, 65(1), 124–146.
- Ochieng, V. O., & Ngware, M. W. (2022). Adoption of education technologies for learning during COVID-19 pandemic: The experiences of marginalized and vulnerable learner populations in Kenya. *International Journal of Educational Reform*, 1–24. <https://doi.org/10.1177/10567879221076081>
- Owusu, L. D., & Frimpong-Manso, K. (2020). The impact of COVID-19 on children from poor families in Ghana and the role of welfare institutions. *Journal of Children's Services*, 15(4): 185–190.
- Pinchoff, J., Kraus-Perrotta, C., Austrian, K., Tidwell, J. B., Abuya, T., Mwanga, D., Kangwana, B., Ochaka, R., Muluve, E., Mbushi, F., Nzioki, M., & Ngo, T. D. (2021). Mobility patterns during COVID-19 travel restrictions in Nairobi urban informal settlements: Who is leaving home and why. *Journal of Urban Health*, 98(2), 211–221.
- Population Council. (2020). Kenya: COVID-19 knowledge, attitudes and practices—Responses from second round of data collection in five informal Nairobi settlements (Kibera, Huruma, Kariobangi, Dandora, Mathare). *COVID-19 Research and Evaluations Brief*.
- Posel, D., & Rogan, M. (2009). *Women, income and poverty: Gendered access to resources in post-apartheid South Africa*. *Agenda*, 23(81), 25–34.
- Shafiq, M. N. (2010). *The effect of an economic crisis on educational outcomes: An economic framework and review of the evidence*. *Current Issues in Comparative Education*, 12(2), 5–13.
- United Nations (UN). (2008). *Designing household survey samples: Practical guidelines*. UN Statistical Division.
- Voice of America News Online (2021, January 16). Pandemic Closes Repurposes Kenya's Private Schools Francis Likoye Malenya, Report by Brenda Mulinya 2021, 3.32 A.M. Von Eye, A., & Spiel, C. (1996). Standard and nonstandard log-linear symmetry models for measuring change in categorical variables. *American Statistician*, 50(4), 300–305.
- World Bank (2020). The COVID-19 pandemic: Shocks to education and policy responses. World Bank. <https://openknowledge.worldbank.org/handle/10986/33696>
- World Bank, United Nations Educational, Scientific, and Cultural Organization (UNESCO), & United Nations Children's Fund (UNICEF). (2021). *The state of the global education crisis: A path to recovery*. World Bank, UNESCO, and UNICEF
- Zuilkowski, S. S., Piper, B., Ong'ele, S., & Kiminza, O. (2018). Parents, quality, and school choice: Why parents in Nairobi choose low-cost private schools over public schools in Kenya's free primary education era. *Oxford Review of Education*, 44(2), 258–274.