



AN ANALYSIS OF LEARNING LOSSES IN PRIMARY SCHOOLS DUE TO COVID-19 IN UGANDA

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Published by ACODE

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Citation:

Nuwaha, E., Ayesigwa, R., Okillong, P. (2023). An Analysis of Learning Losses in Primary Schools Due to COVID-19 in Uganda, Kampala, ACODE Policy Briefing Paper No. 67.

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ISBN: 9789970567317

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Acknowledgement

The policy briefing paper benefited from the contribution of various stakeholders whom we want to acknowledge. The Advocates Coalition for Development and Environment (ACODE) is grateful to the Hewlett Foundation for extending support that made this publication possible.

We appreciate the participation of the ACODE District Researchers from the 10 districts in collecting the data, the head teachers from the sampled primary schools, and the pupils and their parents who participated in the assessment.

We are indebted to Dr Susan Kavuma and Keith Kisaame for their invaluable contribution to the conceptualisation and contribution to this policy briefing paper. We are also grateful to Jonas Mbabazi and Prof. Winstons Muhwezi for their leadership, guidance, reviewing, and editing of this paper.

Whereas the mentioned institutions and persons made significant contributions to the paper, the views expressed in this report are those of the authors.

Acronyms

ACODE	Advocates Coalition for Development and Environment
DLGs	District Local Governments
GDP	Gross Domestic Product
ICT	Information and communication technologies
LGSCSI	Local Government Councils Scorecard Initiative
MoES	Ministry of Education and Sports
MoFPED	Ministry of Finance Planning and Economic Development
MoH	Ministry of Health
NAPE	National Assessment of Progress in Education
NCDC	National Curriculum Development Center
NIH	National Institute of Health
NPA	National Planning Authority
PWC	Price water house Coopers
UBOS	Uganda Bureau of Statistics
UGX	Uganda Shillings
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEB	Uganda National Examination Board
UNICEF	United Nations Children’s Fund
NITA-U	National Information Technology Authority - Uganda
UN	United Nations
UNDP	United Nations Development Programme
USD	United States Dollars
WHO	World Health Organisation

1. Introduction



The COVID-19 pandemic, caused by the novel coronavirus (SARS-CoV-2), has had a significant impact worldwide since it was first reported in Wuhan, China in late 2019 (Zhu, N., Zhang, D., et al. 2020) and quickly spread around the world, leading the World Health Organization to declare a global pandemic in March 2020 (WHO 2020). Governments around the world implemented various measures aimed at controlling its spread, such as countrywide lockdowns, social distancing, and mandatory use of personal protective equipment (National Institute of Health 2020, European Medicines Agency 2020). In March 2020, Uganda confirmed its first case of COVID-19 (MOH, 2020), and since then, the virus has had significant impacts on the country. The government of Uganda, along with other stakeholders, implemented measures aimed at controlling the spread of the virus, including lockdowns, curfews, and restrictions on public gatherings. These measures had far-reaching effects on the country's economy, healthcare system, education systems, and virtually every aspect of life, including social interactions (Musoke, David, et al, 2023).

The COVID-19 epidemic, which began as a health emergency, had terrible economic and educational implications. It caused more than 1.6 billion children to leave school at its peak. While many educational systems experimented with varying degrees of remote learning, it is widely accepted that the closures resulted in considerable learning losses. (Kaffenberger, 2021).The World Bank estimated that the generation of students worldwide lost close to \$17 trillion in lifetime earnings in present value or about 14% of today's global GDP due to COVID-19-related school closures (World Bank, 2021). The pandemic also unmasked the existing social inequalities and disparities, particularly in terms of access to healthcare and economic opportunities (Mukiza, 2020). During the pandemic, Uganda had the longest period of school closures in the world, at 22 months. This affected almost 15.1 million learners across different education levels in Uganda (NPA, 2021).

This policy briefing paper examines the impact of the COVID-19 pandemic on learning losses in primary schools in Uganda and suggests possible policy recommendations to curb the learning losses. This paper focuses on primary education because it had the highest level of learners (10.7 million) followed by secondary (2 million) and pre-primary (2 million) and finally tertiary (311,556) bringing the total of learners in Uganda to about 15.1 million (NPA, 2021).

1.1 Background

Since its outbreak in late December 2019, COVID-19 wreaked havoc across the world and like any critical sector, education was hit hard. Students, teachers, schools, colleges and universities have been deeply impacted (Asakawa & Ohtake, 2021). According to the United Nations Educational, Scientific and Cultural Organisation (UNESCO), over 800 million learners from around the world were affected, 1 in 5 learners could not attend school, 1 in 4 could not attend higher education classes, and over 102 countries ordered nationwide school closures while 11 Countries implemented localized school closure.

The pandemic effects in Uganda on the education sector were experienced by the closure of schools. During the first wave of the pandemic, Uganda closed its educational institutions on March 20, 2020, with some phased reopening for candidates, final-year students, and medical students. With the return of lower primary and secondary students in June 2021, the country was set to reopen the entire system. However, this did not occur owing to the second wave surge in May-June 2021, which resulted in a reversal of the reopening efforts (NPA, 2021). This affected almost 15.1 million learners across different education levels of which 10.7 million learners were in primary school (NPA, 2021). Of those affected, almost 52% were adolescent girls and young women and 48% were boys (MoFPED, 2020). A study by Save the Children (2020) indicates that when child protection systems including schools were locked down, all children (boys, girls, and children with special needs) were affected. Uganda, like the rest of the world, is still struggling with the impacts of the COVID-19 pandemic. Indeed, the pandemic affected the social, economic, and health status of all populations. The nationwide lockdown also unmasked the existing social inequalities and disparities, particularly in terms of access to healthcare, education and economic opportunities (Mukiza, 2020).

It was projected that the pandemic's impact on education would be felt primarily by low and middle-income households in both private and public schools. Furthermore, the loss of instructional time due to lockdowns would disproportionately affect the poorest areas, as education is a critical component of poverty reduction (Fanelli D. , Cajuste, Cetta, & Amanyanya). Uganda also has a highly young population, with around 75% of the population under the age of 30 (Among & Munavu, 2019). Supporting the education sector is crucial since such a significant percentage of the population can raise capital and boost economic growth. In the age of COVID-19, remote learning has become synonymous with technology, but there are enormous differences in access to technology in Uganda's urban and rural areas, perpetuating inequality (Fanelli D. , Cajuste, Cetta , & Amanyanya , 2021).

1.1.1 Economic loss due to Education Institutions' Closure

The World Bank indicates that in terms of economic benefits of education. "In Africa, each year of schooling raises average earnings by 11.3% for males and 14.5% for females." (Psacharopoulos & Patrinos, 2018). Additionally, education has been identified as the primary driver for lifting people out of poverty, since gaining political independence, Uganda has identified education as a critical component for driving social growth, economic development, and change, as well as achieving a more united society and democratic reforms. Besides, Uganda's Vision 2040, emphasizes education as a critical component of economic growth through human capital provision. Yet, the education sector was one of the most affected by the COVID-19 epidemic in Uganda. (Fanelli D., Cajuste, Cetta , & Amanya , 2021).

A technical note by NPA towards the safe opening of the education sector in COVID-19 times indicates that the education sector contributes significantly to Uganda's GDP. Considerably, the Uganda Investment Authority estimates the education sector contribution to GDP at 5% and this is so especially given the number of linkages across numerous value chains. The sector also has a substantial impact on Uganda's employment, directly employing around 4% of total Ugandan labour and indirectly employing many others (NPA, 2021).

1.1.2 The Education System in Uganda

Uganda's education system consists of seven years of basic education, six years of secondary education (four years of lower secondary and two years of upper secondary school), and three to five years of post-secondary education. Students can choose between private and public education schools based on their talent, objectives, and financial capabilities. In terms of enrolment, human resource requirements, and funding, primary education is the largest sub-sector of education in Uganda. It follows a seven-year cycle, from Primary one through Primary seven (Tumwesige, 2020).

Universal Primary Education (UPE) was established in 1997 to increase access to basic education and to ensure that all girls and boys get free, equitable, and high-quality primary education that leads to relevant and effective learning outcomes (Inter-Regional Inequality Facility, 2006). The Education (Pre-Primary, Primary and Post-Primary) Act, 2008¹ outlines the government's commitment to offering learning and instructional resources, structural development, teacher welfare, and curriculum creation and control. In the same vein, a parent's responsibility involves enrolling a child of school age in school, as well as giving guidance and psychological welfare, food, clothes, shelter, medical care, and transportation to their children, among other things.

¹ <https://www.esc.go.ug/wp-content/uploads/2018/04/Education-Act-2008.pdf>

1.2 The Learning Losses Problem in Primary Schools in Uganda due to COVID-19

Several publications have been done by international organizations and other authors during the pandemic period, exploring the impact of COVID-19 on education in terms of school closures and its effect on learning around the world. (Kuhfeld, et al., 2020), (Kaffenberger, 2021).

Learning losses are not a new phenomenon and have been construed differently by various scholars. In the context of this paper, learning loss means a general or specific loss of knowledge or skills due to an extended gap or discontinuity in a student's regular education program.² It can also refer to when students do not fully lose knowledge they gained previously but fail to make adequate academic progress. Students can experience learning loss if they miss an extended amount of school due to illness, frequent moves, or lack of resources. It can occur if a student discontinues school or drops out (Kerry & Davies , 1998). According to Huong & Jatturas, learning loss refers to "any specific or general loss of knowledge and skills or to reversals in academic progress, most commonly due to extended gaps or discontinuities in a student's education" (Huong & Jatturas, 2020). This is mostly caused by disrupted formal schooling and this study has adopted the definition advanced by Huong & Jatturas as the operational definition for learning loss.

It is believed that the magnitude of learning loss due to COVID-19 varies significantly by context. (Azevedo , 2020). Di Petro *et al* separate how physical school closures were likely to affect student learning into four categories: Less time spent learning; Stress symptoms; A change in the way students interact and Lack of learning motivation (Di Pietro , Biagi , Costa , Karpinski , & Mazza , 2020). Based on data from Ethiopia, Kenya, Liberia, Tanzania, and Uganda, Angrist *et al* too estimated learning losses in sub-Saharan Africa (Angrist, 2021).

Our interest here is not in negating the effects of being out of school or critiquing various response measures. it's to take a first run at examining learning loss as a concept, based on particular forms of measurement and quantification, that is now driving education policy strategies and school interventions in countries around the world. Three different ways of calculating learning loss stand out. First is the longer psycho-metric history of statistical learning loss research, second is its commercialization by the testing industry, and the third is the reframing of learning loss through econometric forms of analysis by economists. (Williamson, 2021) Though the COVID-19 issue halted education systems all across the world (World Bank, 2021), In Sweden, where primary schools did not close during the pandemic, there are no reported learning losses (Fälth, Hallin, & Nordström, 2021).

² <https://www.lawinsider.com/dictionary/learning-loss>

Uganda's education sector arguably suffered the most severe disruptions due to COVID-19 and related containment measures. The country experienced the longest school closures globally with all the attempted re-openings unsuccessful until January 2022, after nearly two years of closure. Existing studies on learning losses in developing countries (Angrist, 2021) (Kaffenberger, 2021) have used pre-pandemic data and extrapolated forward to provide suggestions about expected short-term learning losses and their longer-term impacts.

1.3 Objectives.

The overall objective of the brief was to establish the impact of the COVID-19 pandemic and response measures on the learning process of the pupils. This policy brief was guided by the following objectives;

- i. To examine how COVID-19 pandemic response measures affected pupils' acquisition of knowledge.
- ii. To examine the effect of COVID-19 on learners' retention of the content they learnt before the closure of schools.
- iii. To establish how COVID-19 affected the retention of content among marginalised learners.
- iv. To establish the variations in learning losses between private and government-owned schools.

1. Methodology



To establish the impact of the COVID-19 pandemic and school closures on learning progress among primary school children in Uganda, a methodology based on a wide review of relevant literature and a survey was adopted. Specifically, to investigate i) how the COVID-19 pandemic disrupted learning in primary schools in Uganda, considering various dimensions such as rural versus urban schools; private versus public schools; and ii) the effect of COVID-19 response measures on learners.

The survey adopted a National Assessment for Primary Education (NAPE) methodology that was developed by the Ministry of Education (**See Annex 1**). As part of the assessment, a written test in Mathematics (numeracy) and English (literacy) were administered to learners to estimate learning losses.

The written tests assessed primary Six (6) learners in primary five (5) level Mathematics and English. The assumption was that primary Six (6) learners should be more proficient in primary five (5) numeracy and literacy. Grades below the minimum proficiency levels would imply a learning loss among the learners.

The assessment was developed by an educationalist following the primary five curricula, moderated and pretested in 10 schools in Mukono district before it was administered to learners. During the assessment, students were invigilated to safeguard against malpractices. The survey was conducted in December 2021 before the opening of schools in January 2022.

In terms of scope and analysis, a total of 300 pupils across 50 schools in ten (10) districts in Uganda were purposively sampled (**See Annex 2**). These districts included Arua, Gulu, Moroto (Northern region), Jinja and Mbale, (Eastern Region) Kabarole, Masindi and Mbarara, (Western region) and Mpigi, and Wakiso (Central Region).

The districts were selected from the 35 districts where ACODE is already implementing other Projects. In addition, two (2) Sub counties (urban and rural), 3 schools (private (1) and public (2), and 15 pupils with considerations of gender and disability were selected.

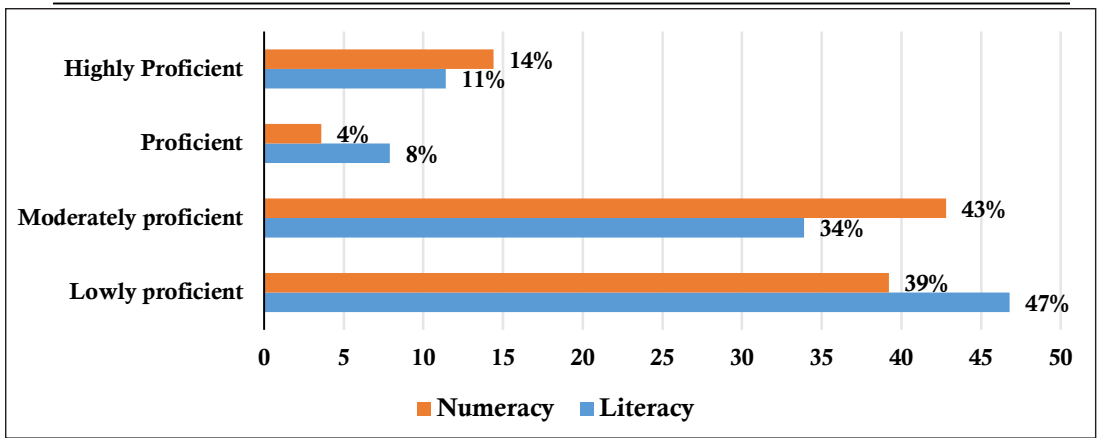
A learner is considered to have experienced a learning loss if their performance is below the minimum level of proficiency (i.e., Performance – Very Good). Grades below the minimum proficiency levels would imply a learning loss among the learners.

3.0 Presentation of Findings

3.1 Overall learning losses in numeracy and literacy

The findings show that in terms of numeracy, 82 per cent of the learners were rated below the minimum required proficiency. This means that most Primary 6 learners scored below 74% in the Primary 5 standard numeracy assessment. The performance was not much different from Literacy as 81 per cent of the learners were rated below the minimum required proficiency level (i.e. Moderately and Lowly proficient). On average 81.5 per cent of the pupils that participated in the assessment of both Numeracy and literacy experienced learning losses. Only 19 per cent and 18 per cent of the pupils were found to have not experienced learning losses in literacy and numeracy respectively. There were slightly more learning losses in numeracy than in literacy.

Figure 1: Percentage of Learners Rated by Proficiency Levels in Numeracy and Literacy



Furthermore, according to the UNEB research, the percentage of learners classified as proficient in Literacy and Numeracy in 2021 had decreased by 4.7 and 13.4, respectively, from 2018. These findings are also in line with the World Bank study which synthesized many research studies from different countries. It established that there were learning deficits in both numeracy and literacy levels among students in India, Pakistan, Sri Lanka, Canada and the Republic of Korea. According to the same report, in Uganda, the percentage of learners classified proficient in literacy and numeracy in 2021 fell by 5% and 13%, respectively, from 2018 (World Bank , 2022).

Further research shows that losses were greater in math than reading, and underprivileged students regress more severely in all subjects. (Chen, , Dorn, Sarakatsannis, & Wiesinger, 2021). This was attributed to the fact that Math is almost usually taught formally in

schools. Parents are frequently ill-equipped to assist their children in math, at a time when parental assistance is even more critical to student success.

Broader stress and trauma associated with the pandemic intensified some students' pre-existing math anxiety, and math worry might exacerbate students' other stress in class. Teachers could have found it more difficult to engage in good math instructional activities while using remote platforms (Sawchuk & Sparks, 2020).

An irreversible consequence of the lockdown is that each learner (save for those in international schools) has already lost 2 years. This implies that learners remained in the same grade for now 2 years since 2020.

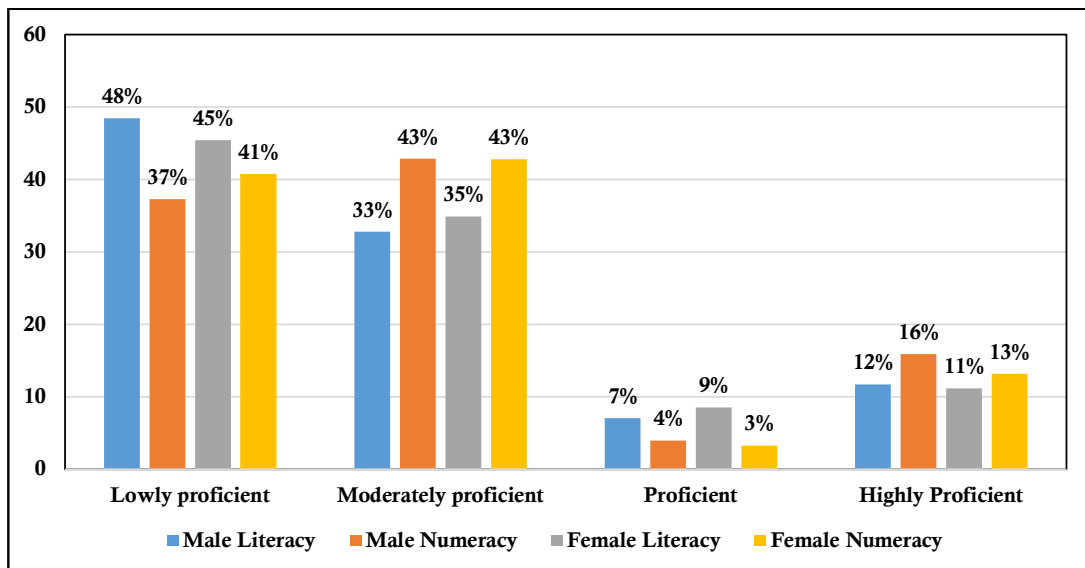
Learners particularly in the basic education subsector have outgrown their grades and this makes them prone to dropping out since evidence shows a higher likelihood for older learners to drop out of lower grades. (National Planning Authority, 2021). Although reports of learning loss typically focus on literacy and numeracy, students have experienced learning loss in all aspects of learning as a whole.

These disadvantages include areas that are much more important than reading and mathematics, such as emotional social well-being, attitudes toward learning, interaction with friends, and physical and psychological development (Zhao, 2021).

3.2 Learning Losses Disaggregated by Gender

The findings show that 81 per cent of the male experienced low and moderate proficiency in literacy and 80 per cent in Numeracy. On the other hand, 80 per cent of the female learners experienced low and moderate proficiency and 84 per cent in numeracy. Generally, girls experienced more learning losses in Numeracy than boys and boys experienced more learning losses in literacy than girls i.e. 84 per cent against 80 per cent and 81 per cent against 80 per cent respectively.

Figure 2: Desegregation of Performance by Gender in Numeracy and Literacy

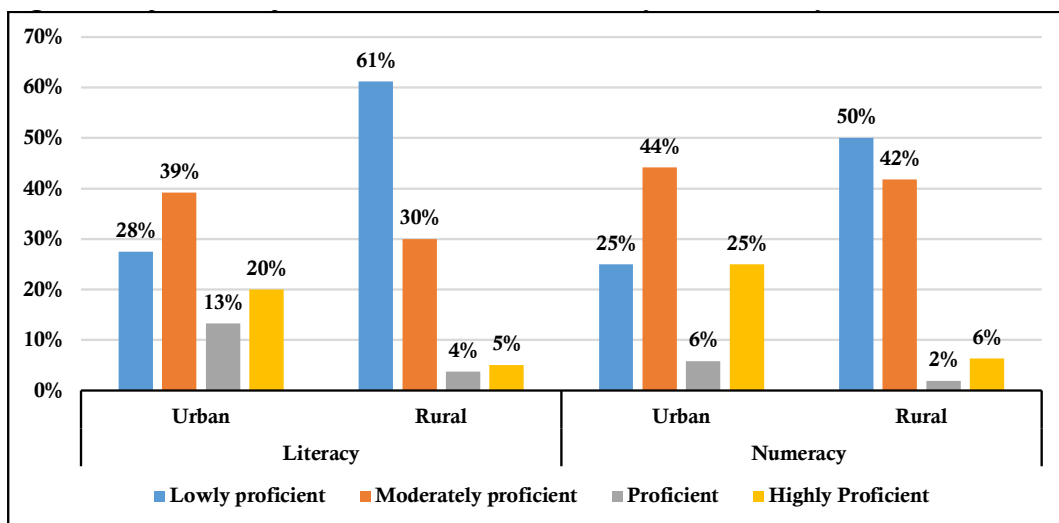


Though research has been conducted to investigate learning loss by gender, the results have been inconsistent. While some studies indicate more learning loss in females, others find more learning loss in males, and still, others find no statistical difference in learning loss by gender (Patrinós, Vegas, & Carter-Rau, 2022). Other research shows that boys outperform girls in numeracy than in literacy (OECD, 2011). This has been attributed to less positive attitudes towards numeracy, high levels of math anxiety and low levels of confidence in their math skills (Ganley, 2018).

3.3 Learning Losses by school location (Urban and Rural)

A significantly large proportion of learners in the rural areas experienced more learning losses in Numeracy (i.e., cumulative finding - 92 per cent) in contrast with a cumulative 69 per cent obtained by learners in Urban schools. This was also the case for literacy in rural schools at 91 per cent compared to their urban counterparts at 67 per cent. The learning losses experienced by students in rural areas are attributed to several factors that include limited access to electricity, ICT, not accessing learning materials that were distributed by the government, and limited access to television and radio among others. This highlights the increased inequality gaps that have existed among urban and rural schools in Uganda. Many education experts around the world were concerned that when schools close, more affluent students will keep up (via online courses, parental help, or even enrolling in private schools that reopen sooner), while poorer students would fall behind (Sandefur, 2022).

Figure 3: Performance of Urban Vs Rural in both Literacy and Numeracy



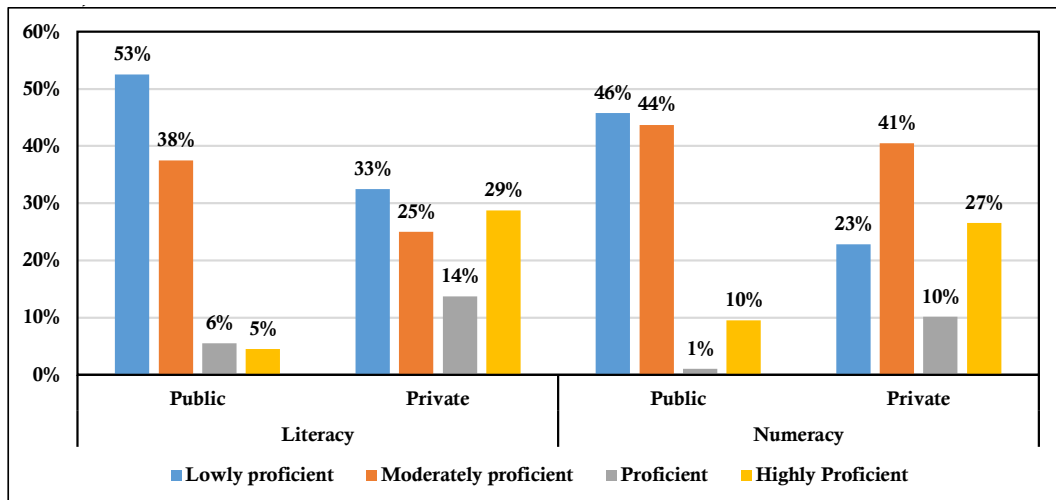
Studies allude to the fact that the more disadvantaged a community is, the COVID-19 learning loss looms larger – however, this finding needs to be confirmed by a proper comparative study. The pandemic exposed flaws in an already troubled schooling system. It worsened disparities in educational access, quality, and performance between rural and urban areas. While many students in urban areas continued to learn during the 22-month closure, either through private arrangements or government efforts to ensure learning continuity, many learners in rural areas and from lower socioeconomic backgrounds were unable to do so, owing to limited access to mobile devices, televisions, radios, and newspapers through which learning was delivered. (Kwasi, Irfan, Hanna, Nakato, & Lakuma, 2022).

3.4 Learning losses by school ownership (Private and Public)

Learners in public schools experienced more learning losses in Numeracy and literacy (91 per cent and 90 per cent respectively) in comparison with their counterparts from private schools (64 per cent and 58 per cent respectively). This could be attributed to the fact that some of the private schools continued to teach, assess, and promote learners online unlike public schools. In addition, private schools prepared and availed learning materials to their students while public schools solely depended on receiving materials from the government which didn't reach some schools. About 40% of Uganda's primary schools are private institutions, run by individuals, religious organisations, charities and businesses (Mwesigwa, 2021). Research does point to potential differential effects of the pandemic on students already struggling academically or from underrepresented backgrounds. These structural inequities are not new but reflect a long-lasting and

ingrained opportunity gap (Johnson-Ahorlu, 2012).

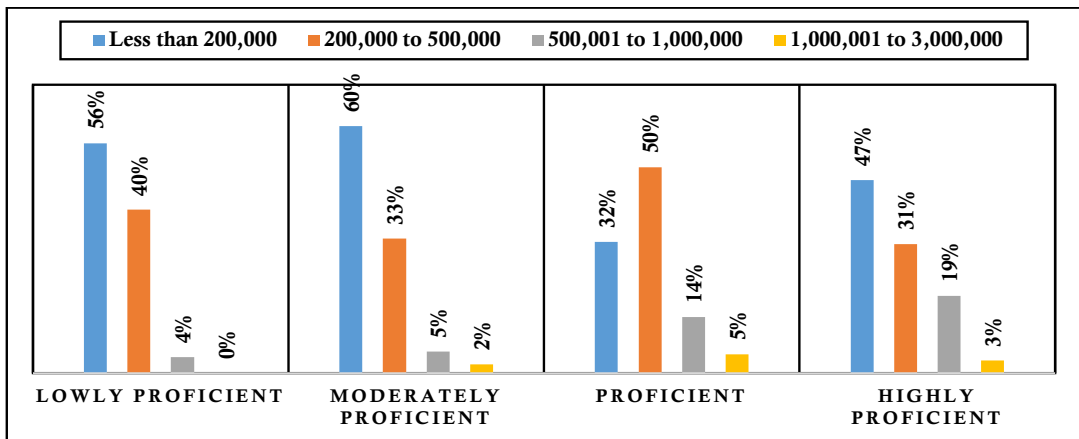
Figure 4: Performance in Literacy and Numeracy desegregated by school ownership (Public or Private)



3.5 Learning Losses by the Level of household income

Further, we sought to establish learning losses in numeracy based on the level of monthly household incomes of learners' parents. The findings show that learners from households with income levels below UGX 500,000 experienced more learning losses in both numeracy and literacy than those with relatively higher incomes. The learners from low-income households could have had limited or no access to facilities such as access to Television and radio that enabled learners to keep engaged in school during the lockdown.

Figure 5: Performance desegregated by Parents' Income Level



According to the world bank, low- and middle-income countries, as well as youngsters from poorer socioeconomic situations, were struck the most. Schools were closed for longer on average than in high-income nations, pupils had less or no access to technology during school closures, and there was less adaptability to the crisis's obstacles. The increase in education disparity caused by COVID-19 is not simply an issue in terms of itself; different learning levels in the classroom make it more difficult for teachers to help most pupils catch up, particularly the most marginalized (World Bank , 2022).

The COVID-19 coping measures were expected to raise poverty rates from 21% to 24% while also increasing the possibility of 40.6% of non-poor households becoming poor. As a result, approximately 64.6% of parents with fee-paying pupils would struggle or even fail to pay tuition. This would increase non-enrolment, school dropouts, and dead years. It was estimated a 19-20% increase in the frequency of young females becoming primary breadwinners for families as a result of sexual exploitation, child labour, and early marriages, among other factors (NPA, 2021). In Uganda, more than 87 per cent of farmers reported that COVID-19 had cut their revenue in half. This financial hardship on families could have pushed school-age children, particularly females, to stay at home and work to support their families. With declining salaries and a lack of structure, a negative feedback loop is generated as young people turn to agriculture to support their families (Fanelli D. , Cajuste, Cetta , & Amanyanya , 2021).

These findings resonate with Allington's who states that 'Learning losses tend to exacerbate existing inequalities as they disproportionately affect the most disadvantaged students with the gap between low-income and middle- to high-income children evident (Allington, et al., 2011). Similarly, findings of studies that analysed student assessments in developing economies noted that learning losses were highly unequal with students from poor families suffering the most as a result of larger negative shocks to family income, inferior internet access, and lower parental ability to support learning. As a result, pupils returned to school with wider learning gaps (Molato-Gayares, et al., 2021). Most

research found an increase in equality with certain student populations experiencing greater learning losses than others (Patrinós, Vegas, & Carter-Rau, 2022).

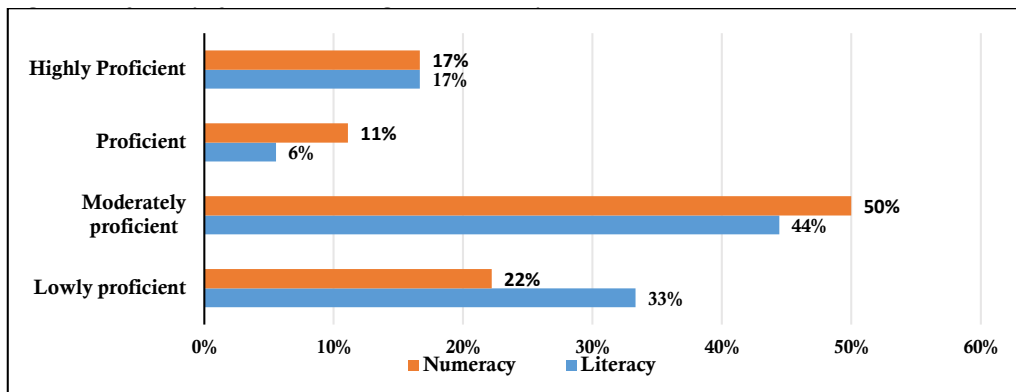
3.6 Learning Losses and Exclusion for Children with Disabilities

The COVID-19 pandemic exposed the shortcomings, fragilities, risks and inequalities in the education of learners with disabilities within and across countries (UNESCO Institute for Information Technologies in Education, 2021). Many countries around the world employed technology-based solutions to maintain the continuity of education through alternative delivery modalities, including online and distance learning.

However, 40 per cent of poorer countries did not provide specific support to disadvantaged learners during the COVID-19 crisis (UNESCO and Microsoft, 2020).

In relation to pupils living with Disabilities that participated in the survey, the findings show, 17 % were highly proficient in numeracy and literacy. While 11 % were proficient in Numeracy and 6% in literacy. Most of these children were under the category of moderately proficient with 50 % in numeracy and 44% in literacy. However, 22 % of the children had low proficiency in numeracy and 33% in literacy. Indeed, this can be explained by the fact that worldwide, many students lacked the necessary equipment, internet access, accessible materials, adapted content and human support that would have allowed them to follow online programmes

Figure 6: Proficiency of Children Living with Disability



For the most vulnerable learners, online and distance education deepened existing social inequalities (UNESCO Chair in ICT4D, 2020). Although increased access to technology has the potential to bridge the learning divide by providing students with access to remote education, students with disabilities may not have the same tools, support, or skills to navigate virtual environments.

Distance learning programs must train teachers in differentiated learning methods adapted to their students' requirements if digital technology is to be a tool for educational justice. Again, this is not to imply that all learning must take place online, but if it does, it must be used to promote educational equity. (UNESCO Institute for Information Technologies in Education, 2021)

The impact of school closure on children with disabilities was felt not only in terms of reading and numeracy but also psychologically and physiologically. Almost 80% of children with mental and behavioural health concerns rely on school-based interventions. The closure of a school involves the loss of key resources for children with disabilities, such as interaction with specialists and structured learning environments. Parents of children with special needs are unlikely to have the means to support distant learning. To address the growing educational gaps in this population, we must emphasize ways for safely resuming in-person schooling for children with disabilities and lobby for funding to promote the expansion of assistive technologies for home use. (eg, tools for the visually or hearing impaired) (Masonbrink & Hurley).

Without necessary accommodations and services, parents who do not have the training and skills of special education teachers were suddenly thrown into these roles. Many parents could not offer the same kind of support students would receive in school as a result of their responsibilities, including work and childcare.

In a remote setting, there was less access and less time for speech/language, occupational, and physical therapies. This loss of support and disruption of routine also led to depressive symptoms, acting out and changes in behaviour in many children, particularly with the social isolation they experienced (Pender , 2022).

3.7 Causes of Learning Losses in Primary Schools in Uganda

According to (Huong & Jatturas, 2020) some of the causes of learning losses include a reduction in the level of learning; unequal levels of learning and dropouts caused by the digital divide among others. An assessment report by UNEB on the Effects of COVID – 19 Pandemic on Teaching and Learning at Primary and Secondary Education levels in Uganda, revealed that at least 55% of primary schools, faced challenges such as child labour, domestic violence, sexual abuse by relatives and other community members, the occurrence of early marriages, inadequate finances to cater for the family, inadequate parental support to girls/teenage pregnancy, kidnaps/arrests by police/idleness/joining bad peer groups, inability to worship and uncertainty about schools re-opening date that affected their learning (UNEB, 2021).

Moreover, during the lockdown, it was reported that there was an increase in teenage pregnancies across the country. Pregnancy cases among girls aged 10-14, for example, surged by 366.5% between March 2020 and September 2020. Also, between March 2020 and June 2020, pregnancy cases among girls aged 10-24 climbed by 22.5%, while pregnancy cases among those aged 15-19 increased by 25.5%. (NPA, 2021).

Disparities in access to technology: the pandemic further contributed to Learning losses being especially high in vulnerable groups, as distance learning has further increased the problem of access to education for this category of students (Kasradze & Zarnadze, 2021) Furthermore, Online education was noted to be a poor substitute for in-person education, especially for children from low-income homes. Peer impacts also alter; schools allow children from different socioeconomic backgrounds to mix, and when schools close, this benefit is gone. Another element is the parental reaction, with some compensating for the new environment via their efforts while others are unable to do so (Patrinos, Vegas, & Carter-Rau, 2022).

According to the report by World Bank, children from low-income families, children with impairments, and girls were less likely than their peers to employ remote learning. This was frequently due to a lack of accessible technologies, such as electricity, connectivity, and devices, as well as discrimination and gender norms. Younger students had less access to remote learning and were more affected by learning loss than older students, particularly among pre-school-age children at critical phases of learning and development.

The negative impact on learning has disproportionately harmed the most marginalized or vulnerable people. Students with lower socioeconomic levels experienced significant learning losses in nations such as Ghana, Mexico, and Pakistan (World Bank, 2021). High internet costs, inadequate network coverage, and a lack of key equipment (computers and mobile phones) were major difficulties that were noted to affect e-learning implementation in Uganda. Learners and teachers were also discovered to lack adequate computer abilities, making e-learning deployment difficult in some educational institutions (Twinamasiko, Nuwagaba, & Sserunjogi, 2021).

Parental and Family Support; Parental and family support was highlighted as a key factor in mitigating learning loss during school closures. In England, it was linked to socioeconomic status and the educational background of parents. (Page, Leonard-Kane, Kashefpakdel, Riggall, & Guerriero, 2021). In Kenya, student respondents to a survey indicated that in addition to lost learning time from school closures, the impact of COVID-19 on parents, lost employment and the subsequent need to move to the countryside has affected their ability to study (Kathula , 2020). In Uganda, most parents did not provide instruction to their children during the lockdown, parents were uncomfortable teaching their children, and parents preferred that their children do their

research (Twinamasiko, Nuwagaba, & Sserunjogi, 2021). More so parents from poor homes involved their children in farming other than encouraging them to continue learning using the alternative measures. (National Planning Authority, 2021).

Poverty also contributed to learning losses because a lot of economic activities were closed down, resulting in a decrease in household income, leading to acute poverty in many communities that were already living below the poverty line (Simpson , 2021) and therefore parents could not support their children in some aspects of learning like acquiring internet and in other instances children also joined their parents to look for money.

Vulnerable children, such as refugees and children with disabilities; Uganda has 1.4 million refugees, the third-highest number in the world, with 60 per cent of them being children. Many refugee groups lack a reliable phone network, making traditional home teaching more successful than technology-based techniques. Other children face similar uncertainty, such as children with disabilities, who already face significant barriers to attending school, and adolescent girls, who frequently drop out of school entirely after becoming pregnant or marrying off young, which was expected to increase during school closures (Save the Children , 2020).

3.8 Government of Uganda Policies put in place to ensure continuity in learning during the COVID-19 pandemic

Due to the pandemic, different countries around the world were forced to come up with coping mechanisms to make sure that there is continuity in learning. Countries adopted Online education (Patrinos, Vegas, & Carter-Rau, 2022). Supporting the education sector is critical because such a larger percentage of the population has the potential to increase capital and improve economic growth. In the age of COVID-19, distance learning has become synonymous with technology, but there are massive gaps in access to technology among urban and rural areas in Uganda, which perpetuates inequality. (Fanelli D. , Cajuste, Cetta, & Amanyana). Research shows that distance learning contributed to learning losses in most countries (Kasradze & Zarnadze, 2021).

The Ministry of Education and Sports working with other partners came up with a Framework for the Provision of Continued Learning During the COVID-19 Lockdown in Uganda. The framework aimed to; (i) Ensure continued learning at home, using the different modes, for all learners when schools have closed due to the pandemic; (ii) Highlight the different modes of lesson delivery to be used for continued learning; (iii) Guiding teachers on how to develop and deliver radio and television lessons for learners at primary and secondary levels during the COVID-19 lockdown; (iv) Guide other

stakeholders especially parents on their roles and responsibilities to enable continued learning under the lockdown; (v) Providing learning opportunities through different mediums of communication i.e. TV, Radio and Internet.³

The framework proposed the modes of delivering lessons depending on what is convenient for the different learners across the country that included: (i) Print and self-study home package, which will be adapted into large print and braille for learners with special needs; (ii) Radio live recorded lessons and live presentations which will be placed on SD reader cards and memory cards for learners with special needs; (iii) Television-lessons which will make use of interpreters for learners with hearing impairment; (iv) Online uploads to be uploaded on phones (MoES, 2020).⁴

Though The Ugandan government embraced and supported a multifaceted strategy to ensure learning continuity through remote learning models. In Uganda, the majority (51%) of learners across all education subsectors quit learning. Males (47.6%) had less access to learning during the lockout than girls (50.4%). The majority (52.2%) of students who did not learn during the COVID-19 school lockout were found in rural locations, while at least 50.2% of their urban counterparts continued to learn. When compared to their older counterparts, the majority (60%) of pupils in primary schools (10-13 years) were not studying throughout COVID-19 (NPA, 2021).

In Uganda, it has been noted that 80% of Uganda's school-age children and youth living in rural areas are characterised by a lack of basic living resources and underdeveloped educational and supporting infrastructure, does the difficulty of accessing learning technologies and the digital divide between privileged and deprived groups continue to widen the educational gap? (Tumwesige, 2020).

Yet According to the 2017/2018 National IT survey, 65.3% of Ugandan homes owned a radio, 21.8% owned a television set, 5.9% had access to a computer at home, 10.8% of households owned a telephone, and 10.8% of all households had at least one person who had an Internet connection. 99.1% of homes with internet connection utilized their mobile phones to connect to the Internet. The survey also discovered that 70.9% of all people owned cell phones. (NITA, 2018). However, these figures do not account for the disparities between urban and rural areas. For example, just about 8% of rural families have access to the national electrical grid, compared to 71.2% in urban regions. Electricity is vital in the age of the pandemic because it is required to power the technology utilized for distance learning. This digital gap will have a greater impact in rural areas, contributing to economic and educational disparities. (Fanelli D. , Cajuste, Cetta , & Amanyana , 2021).

³ Framework for Provision of Continued Learning During the COVID-19 Lockdown in Uganda

⁴ Ibid



4.1 Conclusion

Undoubtedly, the disruption due to COVID-19 in the pandemic's first two years has caused a significant loss in learning and quality of education and disproportionately impacted the poor, the disabled, and otherwise disadvantaged students. The reduction in enrolment has consequences for other population-level education outcomes in the long run. These disproportionate effects imply a need for targeted initiatives from relevant Ministries Departments and Agencies plus other actors to enhance learning among primary school pupils in Uganda. In light of the findings of this policy briefing paper, the following recommendations, among others, should address the need for education in times of emergencies.

4.2 Policy Recommendations

The Ministry of Education and Sports (MoES)

- MoEs, Office of the Prime Minister and MoFPED should strengthen the implementation of the Framework for Provision of Continued Learning During disasters and health emergencies in Uganda
- There is a need for the government to implement interventions targeting improving performance in rural schools to lift their standards to match urban schools. This will reduce the inequality that was exposed by the COVID-19 pandemic in Uganda's Education systems.
- Streamline computer literacy programs for both teachers and students so that they can readily use technology if emergency events necessitate the usage of remote learning. Furthermore, the MoES should consider how to equip schools with computers and other technology equipment to ensure the continuation of learning in the event of a pandemic or other emergency like COVID-19.
- To recompense for the pandemic learning loss, comprehensive, accessible, and successful solutions covering cognitive, affective, and social learning losses should be established.

The Ministry of Science, Technology, and Innovation and NITA- U

- Should accelerate digitalization and systems that facilitate distance/ e-learning across all regions, particularly in rural and marginalized regions. This will be a lasting solution to unprecedented circumstances like COVID-19.

Ministry of Finance Planning and Economic Development

- There is an urgent need for policy actions that encourage all learners to enrol back in school and resume learning to curb bottlenecks in the education system. Additionally, budgetary allocations to encourage student survival, train and adequately remunerate teachers, a relevant and up-to-date curriculum and accelerate infrastructure that promotes distance learning, especially for most affected regions in Uganda.

Education Institutions

- A call to education Institutions in Uganda to invest more in ICT infrastructure, including hiring Information Technology staff to update their websites with the detailed content of all courses and programs offered, while also enhancing their collaboration with government ICT agencies and Digital media agencies to equip teachers with digital skills.
- Educational institutions through Parents Teachers' Associations and School Management Committees should encourage parental involvement in their children's education. Parents are always crucial in education, but governments often overlook them. This can be through direct contact from schools to parents, and more involvement in educational events with learners.

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Annex 1: Categorization of Proficiency Levels

Grade (%)	Proficiency Level	Level of knowledge and skills
80 - 100	Highly Proficient	<p>Literacy: Learners in this category construct a grammatically correct sentence using a verb in the present-continuous tense, interpret information from a complex text, draw inferences from a non-continuous text, use less familiar vocabulary correctly, produce contextual meanings of words, and write a composition.</p> <p>Mathematics: having the skills in the above proficiency levels, typical learners in this category can solve word problems involving the division of up to three-digit numbers, divide fractions, illustrate information in the form of a bar graph, infer information from a bar graph, calculate simple finite probability, interpret a Venn diagram, tell time, use a ruler to measure the length and understand the basic concept of symmetry.</p>
75 - 80	Proficient	<p>Literacy: In addition to having the skills in the above proficiency levels, typical learners in this category can use the correct tense, form comparative and superlative adjectives, construct grammatically correct sentences using verbs, draw inferences from a continuous text, draw simple inferences from everyday situations, and use complex grammatical structures.</p> <p>Mathematics In addition to having the skills in the above proficiency levels, typical learners in this category can divide up to four-digit numbers with remainders, recognize decimal place values, subtract fractions without common denominators, convert a decimal to a fraction, calculate mean and area, form subsets, perform operations (union) on closed sets, round off numbers to the nearest thousands, convert units, calculate speed, solve word problems involving multiple operations and currency, and perform simple geometric construction.</p>
50 - 74	Moderately proficient	<p>Literacy In addition to having the skills in the above proficiency level, typical learners in this category can form plurals of words, re-arrange jumbled letters to form words, rearrange words to form sentences, extract information from continuous and non-continuous texts, use common vocabulary in context, and use the mechanics of basic English writing</p>

Grade (%)	Proficiency Level	Level of knowledge and skills
		In addition to having the skills in the above proficiency level, typical learners in this category can solve word problems involving subtraction of up to four-digit numbers, divide up to four-digit numbers without remainders, name basic shapes, identify fractions, order numbers in ascending order, complete a pattern, extract information from simple graphs, represent sets using venn diagrams, write four-digit numbers in words, calculate simple profit.
Below 50	Lowly proficient	<p>Literacy: Typical learners in this category can recognize common nouns, extract information from a text, recognize and use common words in sentences, and only begin an informal letter with a correct address and salutation.</p> <p>Mathematics: The learners in this category can perform basic numerical operations such as the addition of up to four-digit numbers with carrying, subtraction of up to three-digit numbers with borrowing, multiplying two and three-digit numbers with carrying, adding simple fractions with a common denominator, and recognize place values up to thousands.</p>

Source: Author's Modification using the NAPE (2018) Methodology.

Annexe 2: Schools Sampled.

District	Schools that participated in data collection
Arua	Bendulu Primary School
	Bright Hill Junior School
	Ewava Primary School
	Ketekele Primary School
	Mofame Primary School
Gulu	Awach Central Primary School
	Kulu Keno Primary School
	Living Water Christian Academy
	Rwotobilo Primary School
	Rwotobilo Primary School
	St. Micheal Primary School
Jinja	Bubugo Primary School
	Lubani Primary School
	Namagera Primary School
	New Hope Junior School
	Wansimba Primary School
Kabarele	Busaiga Primary School
	Covenant Kindergarten and Primary School
	Harugongo Primary School
	Nyakasura Junior School
	St. Joseph Nursery and Primary School
Masindi	Zion Palace
	Bokwe Primary School
	Kabalega Primary School
	Kilanyi Primary School
	Seven Gifts Nursery and Primary School

District	Schools that participated in data collection
Mbale	Naburi Primary School
	Nashibiso Primary School
	Nyondo Demonstration
	Shitulwa Primary School
	Zesui Primary School
Mbararara	Bwizibwera Moslem Primary School
	Bwizibwera Parents Primary School
	Bwizibwera Town Primary School
	Nyekundire Model Primary School
	Rubingo-Nyanja Primary School
	Rwengwe Primary School
Moroto	Child Jesus Primary School
	Kasimeri Primary School
	Naitakwae Primary School
	Nakapelinen Primary School
	Nawanatau Primary School
Mpigi	Kammengo Primary School
	Magejjo Primary School
	Mpigi UMEA Primary School
	St. Hellen Primary School
	St. Kizito Mpigi Primary School
Wakiso	Immaculate Heart Kindergarten and Primary School
	Namusera UMEA
	Pals Legacy Junior School
	St. Joseph Catholic Primary School
	St. Kizito Namusera Catholic Primary School

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About ACODE

The Advocates Coalition for Development and Environment (ACODE) is an independent public policy research and advocacy think tank based in Uganda. ACODE's work focuses on four programme areas: Economic Governance; Environment and Natural Resources Governance; Democracy, Peace and Security; and Science, Technology and Innovation. For the last eight consecutive years, ACODE has been ranked as the best think tank in Uganda and one of the top 100 think tanks in Sub-Saharan Africa and globally in the Global Think Tanks Index Report published by the University of Pennsylvania Think Tanks and Civil Societies Program (TTCSP).

With Support from Hewlett Foundation.



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