
National Study on the Situations of At-Risk and Out-of-School Children in Ethiopia

**Final Report Submitted to: The Ministry of Education and UNICEF -
Ethiopia**



**January 2022
Addis Ababa**

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Acronyms

5DE	Five Dimensions of Exclusion
AIR	American Institutes for Research
ANER	Adjusted Net Enrolment Rate
ASR	Accelerated school readiness
ECCE	Early childhood care and education
EMIS	Education Management Information System
ESDP	Education Sector Development Programme/Education Sector Development Plan
ETB	Ethiopian birr
FGD	Focus group discussion
GEQIP	Ethiopia General Education Quality Improvement Programme
ICM	Integrated case management
KII	Key informant interview
LMI	Labour market information
MoE	Ministry of Education of Ethiopia
MoLSA	Ministry of Labour and Social Affairs
MoRES	Monitoring Results for Equity System
MoWCYA	Ministry of Women, Children and Youth Affairs
NGO	Non-governmental organisation
OOSC	Out-of-school children
PSNP	Productive Safety Net Programme
REB	Regional Education Bureau
SDG	Sustainable development goal
SGBV	School gender-based violence
UIS	UNESCO Institute for Statistics
UNICEF	United Nations Children’s Fund
USD	United States dollar
VAC	Violence against children
WASH	Water, sanitation, and hygiene
WFP	World Food Programme

Executive Summary

Despite commendable progress on expanding school access at the pre-primary, primary, and secondary school levels, educational disparities and high out-of-school rates persist in the Ethiopian education sector. Moreover, recent developments such as the global COVID-19 pandemic and armed conflicts, inter-communal violence, and humanitarian crises in the regions of Tigray, Benishangul-Gumuz (Metekel Zone), Oromia (west Guji Zone), and SNNP (Konso Zone)ⁱ ⁱⁱ have impeded efforts to expand educational access in Ethiopia.

To understand the current challenges and barriers that are driving out-of-school rates, UNICEF Ethiopia, in partnership with the Ethiopian Ministry of Education (MoE), contracted the American Institutes for Research (AIR) to provide consultancy services for a National Study on the Situations of Out-of-School Children (OSSC) in Ethiopia. The objectives of this study were to provide updates on the prevailing trends and profiles of out-of-school and at-risk primary and secondary students in Ethiopia, to highlight the factors that drive out-of-school rates, and to analyse the gaps in existing policies, strategies, and programmes that aim to improve school enrolment and retention. Ultimately, the study aims to help UNICEF, Ethiopia's MoE, and other key stakeholders to more effectively address the barriers that keep children out of school. The findings of the study will also inform the implementation of the Education Sector Development Programme VI and the country's 2020-2025 Country Programme Document.

To achieve these objectives, AIR designed a mixed-methods study including a desk review, secondary quantitative data analysis, primary qualitative data analysis, and strategy development. AIR's approach aligns with the guidance provided by the methodological approach of the Global Out-of-School Children Initiative Operational Manual.ⁱⁱⁱ The study builds upon other recent studies on out-of-school children conducted in Ethiopia such as the 2021 Luminos Fund study, *Out-of-School Children Before and During COVID-19 in Ethiopia*. Thus, the AIR study is targeted in its scope and not intended to be fully representative.

We summarize key findings of the study are summarized around three broad questions.

1. Who is at the highest risk of dropping out and where are they located?

National-level Findings

- An estimated 3.5 million primary and secondary school students are at risk of dropping out.
- Based on survival rates, students who are transitioning into primary school (Grade 1) and lower secondary school (Grade 9) are at the highest risk of dropping out.
- While survival rates for girl and boy students are similar overall, girls have a lower likelihood of staying in school past Grade 7.

- Across all grade levels, private schools have the highest survival rates as compared to government and religious schools. Religious schools perform the best at the lower secondary level, particularly in Grade 9.

Regional-level Findings

- The lowest average survival rates are in Afar (80 per cent) and Benishangul-Gumuz (79 per cent). Consistent with national trends, survival rates in these regions are the lowest in transitional grades (i.e., Grades 1 and 9).
- Due to multiple crises including the COVID-19 pandemic, flooding, and the conflict in Tigray, between 2-2.9 million primary students and 470,000-545,000 secondary students are at risk of not returning to school. The primary reason why students have not registered nor attended primary school is because their schools have not re-opened from the closures due to the pandemic. Another commonly cited reason is the lack of stability and security, particularly in Tigray and Benishangul-Gumuz due to the conflict and instability in those regions. Dropout rates at the primary and secondary school level in both these regions are higher than the national average since the start of COVID-19.

2. Why are children not enrolling in school and why are they dropping out?

Demand-side Causes

- According to the 2018-2019 socio-economic survey, the most common reasons caregivers gave as to why primary and secondary students dropped out is because the household lacked the money, time, and/or motivation to have their students continue their education.
- Households' poor economic conditions are the primary demand-side barrier inhibiting school enrolment and retention. More specifically, economic deprivations affect enrolment and dropout decisions in the following ways:
 1. The perceived opportunity costs of education, especially in light of more acute and immediate economic needs, influence caregivers' decisions to pull children out of school. These factors are particularly pronounced in agrarian and pastoralist regions that rely on child labour.
 2. Indirect school costs such as educational materials and uniforms remain cost-prohibitive for low-income households.
 3. The economic burden caused by the COVID-19 pandemic as well as regional conflict adversely affects caregivers' ability and willingness to send children to school.
- The main socio-cultural barriers that affect school enrolment and retention are as follows:
 1. Caregivers' concerns for their children's safety against violence, especially for girls, cause them to stop sending the children to school.
 2. Child marriage practices cause girls to drop out of school, particularly in rural areas.
 3. Some caregivers continue to hold low perceived value for girls' education.

Supply-side Causes

- Supply-side physical and human resources deficit drive out-of-school rates, though these problems are less pronounced in Addis Ababa. Our study found these supply-side barriers:
 1. Lack of potable water and school meals are disincentives to school attendance.
 2. The curriculum's lack of relevance to local labour markets reduces the perceived benefits of education.
 3. Deficits in infrastructure—including WASH facilities and provisions for students with disabilities—make schools less child friendly. These supply-side barriers are especially pronounced for refugee, internally displaced, and migrant students.

3. How are policies, programmes, strategies designed to address the drivers of low enrolment and dropout and have they been effective?

Perceived Effectiveness of Existing Policies, Strategies, and Programmes

- Education officials, experts, and practitioners generally perceive that existing policies, strategies, and programmes have been effective in improving enrolment and retention rates in the past 10-15 years. In particular, the elimination of school fees for primary and secondary education is believed to have driven the growth of enrolment in general education. However, this policy is also blamed for creating an undersupply of qualified teachers, eroding educational quality and indirectly contributing to drop out.
- The government's investment into Early Childhood Care and Education programmes and policies has been credited for increasing pre-primary school enrolment rates. Pre-primary education aims to improve child readiness, which mitigates the factors that lead to drop out, particularly in the first years of primary school.
- In pastoralist areas, Alternative Basic Education (ABE) has developed rapidly and has helped increase enrolment rates on a limited basis, but problems of low quality and of transition between ABE centres and the formal school system remain.
- Gender-based policies, programmes, and structures were perceived to be effective in addressing barriers for girl students, though restrictive socio-cultural traditions and beliefs in more rural and religious areas still inhibit girls' access to and participation in education.

Cross-Sectoral Approaches

- Ethiopia's social protection policies and programmes such as the Productive Safety Net Programme are perceived to have positively influenced a range of factors that affect school attendance such as child nutrition, food and income security, and child labour. School feeding programmes are perceived to be particularly effective in boosting enrolment and retention but have difficulty with scale and sustainability and are reliant on donor funding.
- Policies and programmes related to WASH, health and nutrition, and child protection help address the multifaceted causes of low enrolment and dropout.

- Experts, government officials, and practitioners recognize a need for improved cross-sectoral coordination between the social protection and education sectors. Similarly, a lack of coordination in other social sectors (i.e., WASH, health, etc.) limits programmes in effectively addressing the challenges and barriers that keep OOSC out of school.

Resource Allocation

- While public expenditure on education is relatively high at the national level, funding gaps and inefficient allocation of resources impede the effective implementation of strategies to address low enrolment and retention rates. Funding gaps inhibit infrastructure upgrades, provision of school meals, new construction of schools, and availability of school materials.
- Existing policy and strategy frameworks recognize the importance of equity-based budgeting, but inequalities in per-capita spending on education between regions persist.
- National expenditure on education focuses on higher education, which tends to be accessed by wealthier households. This resource allocation strategy implies that public subsidisation of education at the national level benefits wealthier households over poorer ones.

Institutional Constraints and Bottlenecks

- Despite important gains, implementation and scale-up of policies and programmes are inhibited by funding gaps, technical capacity constraints, and a lack of overall coordination.
- Although Ethiopia's standalone policies are well-developed and stress inclusion of all students, they lack sustainable follow-through and institutionalisation. In particular, the country's project-based and heavily donor-financed approach to solutions lack both continuity and sustainability.
- A lack of overall coordination among national, regional, and local levels as well as across key sectors such as WASH, health, and social protection inhibits the ability of the government and other actors to implement responsive and effective solutions. Poor coordination is exacerbated by a lack of ongoing and appropriate monitoring mechanisms, which makes it difficult to identify gaps in programme implementation. For example, without integrated case management, strategies and interventions are not targeted enough to address root causes of low enrolment and retention efficiently and effectively.

Recommendations

Based on these findings, AIR developed six costed strategy recommendations to address the identified drivers of low enrolment and dropout.

1. Expand formal pre-primary education
2. Establish more secondary schools
3. Aim to reach universal school feeding
4. Strengthen availability and quality of employment outcomes-focused curriculum
5. Strengthen the child tracking and education management information system
6. Improve the provision of safe drinking water at schools through improved water sources

1. Introduction

Since the launch of the Out-of-School Children Initiative in 2010, Ethiopia has successfully expanded school access and enrolment at the pre-primary, primary and secondary school levels. This represents progress towards achieving Sustainable Development Goals (SDGs) 4.1, 4.2, 4.5 and 5.3 and is one of the key pillars articulated in the new five-year Country Programme Document (2020–2025) of United Nations Children’s Fund (UNICEF) Ethiopia, including the Flagship result ‘Every Child Accesses Learning Opportunities’. Despite this progress, educational disparities and high out-of-school rates persist in the Ethiopian educational sector, particularly for girls. For the Ethiopian Government, these challenges are exacerbated by a lack of reliable and up-to-date empirical data that capture the precise scope and nature of out-of-school rates, the profiles of out-of-school children (OOSC), and the various barriers and bottlenecks that contribute to persistently high out-of-school rates. Moreover, recent developments such as the global COVID-19 pandemic and the armed conflicts, inter-communal violence, and humanitarian crises in the regions of Tigray, Benishangul Gumuz (Metekel Zone), Oromia (west Guji Zone), and SNNP (Konso Zone)^{ii iii} have impeded efforts to expand educational access in Ethiopia.

To provide data on these challenges, UNICEF Ethiopia, in partnership with the Ethiopia Ministry of Education (MoE), contracted American Institutes for Research (AIR) to provide consultancy services for a National Study on the Situations of Out of School Children (OOSC) in Ethiopia. AIR and its wholly owned subsidiary Kimetrica assembled a team of researchers, including Dr. Dawit Mekonnen, Education Policy Specialist, to develop and implement a study to better understand the situations of OOSC in Ethiopia. This study aims to inform UNICEF, Ethiopia’s MoE, as well as other donors and stakeholders on the implementation of the Education Sector Development Programme VI and the 2020-2025 Country Programme Document. The key activities of this mixed-methods evaluation included: (1) a desk review, (2) secondary quantitative data analysis, (3) primary qualitative data collection, and (4) strategy development.

This report is organized in five main sections. Section 1 briefly describes the background and context in which this study is taking place, including Ethiopia’s gains, and remaining challenges in ensuring that all school-age children have access to and stay in school. Section 2 outlines the study’s purpose and objectives. Section 3 describes the technical approach using the Five Dimensions of Exclusion (5DE) model from the *Global Out-of-School Children Initiative Operational Manual*. It then details the methodology that was used to respond to the research

questions (which were categorized into three components: (1) The ‘What’ and ‘Where’ Component: Profiles of Excluded Children; (2) The ‘Why’ Component: Barriers and Bottlenecks; and (3) The ‘How’ Component: Policies and Change Strategies) and to comprehensively assess the extent and nature of the OOSC problem in Ethiopia. Section 4 presents our key findings organized by research question, and our proposed costed strategies to address the challenge of enrolment and retention, with a particular focus on retention. Finally, Section 5 presents our overall conclusions and recommendations based on our analysis of the findings.

1.1 Background and Context

Despite improvements in school access and enrolment, Ethiopia’s education system remains burdened with inequalities. Ethiopia has shown progress towards SDGs four and five,¹ which concern inclusive and equitable access to high-quality education. The primary school net enrolment rate has increased by over 24 percentage points in the last decade with data available (from 61.2 per cent in 2005 to 85.6 per cent in 2015),^{iv} government spending on education has increased (from ETB 28.9 billion in 2014/2015 to ETB 50.6 billion in 2019/2020 in real value)^v and primary and lower secondary school completion rates have increased (from 27 per cent to 52 per cent for primary education and from 10 per cent to 21 per cent for lower secondary education between 2007 and 2016).^{vi}

However, according to the latest United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS) data from 2015, only 84.6 per cent of primary school-aged children were in school at the right age. Moreover, progress on this indicator seems to have halted over the last year for which data are available (between 2014 and 2015, with a net enrolment of 85.1 per cent in 2014) and up to 26.5 per cent of children and adolescents are categorized as out of school at the primary and secondary school levels (6.9 million children in 2015). These findings suggest that school enrolment is still curtailed for many children in Ethiopia, preventing them from reaching their full potential.^{vii}

According to the first study on the situations of OOSC girls,^{viii} children in rural and pastoralist communities (e.g., the Afar and Somali regions), and children in less wealthy households were most likely to have low attendance rates or to drop out of school. Some of the demand-side drivers of high OOSC rates include the prioritization of agricultural labour over education as well as the prioritization of boys’ education over that of girls. The study also showed that a relatively large proportion of children started primary school at age 8, after the recommended school starting age. Delayed school entry is associated with lower school readiness and

¹ SDG #4 is to “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”; and SDG #5 is to “Achieve gender equality and empower all women and girls.”

increases the overall risk of dropping out of school in the future.^{ix} In terms of supply-side barriers to education, sparse numbers of secondary schools in certain areas, limited availability of textbooks and learning materials, a lack of gender-sensitive infrastructure (such as latrines), and a lack of accessible services contribute to children’s struggles to enter or stay in school.^x

The Government of Ethiopia and its national and international partners have proven their commitment to improving school enrolment rates and increasing the quality of education for all children, particularly those who are at risk of dropping out or not completing basic education (including, but not limited to, the commitment of the MoE to the Education Sector Development Programme [ESDP], the Country Programme [2020–2024], the Gender Action Plan [2014–2017], the Quality Education Improvement Programme [2009–present; through the World Bank-managed pooled fund programme] and the Pastoralist Education Strategy [2017]).

The formative evaluation of the UNICEF Country Programme 2016–2020 highlights three focus areas within the scope of learning and development through which Ethiopia seeks to achieve the desired improvements. First, the evaluation describes the further integration of early childhood education services,² with improved capacity and budget to enhance early learning and transition across educational levels. Second, it describes the further integration of education planning to include crisis-sensitive planning, with the goal of ensuring access to education for refugee children or in humanitarian emergencies resulting from conflict or natural disasters. Lastly, it focuses on adolescent girls’ primary school participation and completion, acknowledging the need for a multisectoral approach to address the social ecology of girls’ lives and other individual- and community-level influences.^{xi}

In addition, the Government of Ethiopia launched the Productive Safety Net Programme (PSNP) in 2005 to address the extreme effects of severe drought in the country, including large-scale food insecurity and famine. The programme is now in its fifth phase (PSNP5) and intends to provide regular support to around 8 million rural people annually and targeted support to others during shocks. In addition to its ongoing goal of reducing extreme poverty by enhancing the resilience to shocks of extremely poor and vulnerable rural households, PSNP5 aims to increase the access to available services, such as health, education, and nutrition, of the poorest, the most vulnerable and the socially marginalized.

Even with these commitments, Ethiopia has endured challenges as it works to improve its system of basic education. Recent armed conflict and a humanitarian crisis in the Tigray

² In 2010, the Government of Ethiopia introduced the O-Class modality for early childhood education in all primary schools. O-Class is a one-year pre-primary programme for children aged 6 aimed at improving school readiness by preparing children to enter Grade 1.

Region^{xii} and the global COVID-19 pandemic have threatened access to learning for millions of children. In Ethiopia, COVID-19–related school closures have affected over 26 million in-school students over a six-month period. Schools, which closed in mid-March during the initial lockdown, started opening again in September when the state of emergency was lifted. The Ministry of Health advised the Ethiopian Parliament to reopen schools, arguing that the adverse effects of school closures on children’s development and mental health could outweigh the health gains. However, the disruption in schooling was felt disproportionately, as there were fewer opportunities for remote learning for vulnerable and marginalized children.^{xiii} Given that children from poor households were already five times more likely to be out of school, there is concern that the COVID-19 pandemic may have exaggerated this gap.^{xiv} The crisis in Tigray has caused additional disruption in children’s schooling. According to a recent secondary data review, at least 1.46 million school-aged children in Tigray and neighbouring regions, as well as 35,286 refugee children, remain out of school due to the crisis.^{xv} Many schools remain closed, while others are used by internally displaced people (IDPs) as shelters and temporary sites.^{xvi}

2. Objectives

The overarching objectives of this study project are to assist UNICEF and Ethiopia’s MoE to more effectively address the barriers that keep children out of school and to inform the implementation of the next editions of the Education Sector Development Programme (ESDP) VI and Ethiopia’s 2020–2025 Country Programme Document and the UNICEF Flagship Result “Every Child Accessing Learning Opportunities.” The study seeks to update the trends and profiles of OOSC, considering programmatic and policy efforts to strengthen equitable access to basic education as well as recent developments that may have created additional bottlenecks or shifted existing barriers. The specific objectives of this study are the following:

- Identify, analyse, document, and understand
 - a. the profiles of OOSC and those at risk of dropping out in Ethiopia,
 - b. the barriers (demand side and supply side) that keep children out of school, and
 - c. the policy and strategy challenges that impede children from going to school.
- Generate evidence-based recommendations on OOSC to inform government strategy development and budget allocation to achieve equitable access to education.
- Develop a practical and context- and/or region-specific costed implementation strategy to accelerate the provision of equitable and quality education for OOSC.

- Strengthen the capacity of the regional and MoE staff in the areas of data analysis and interpretation; report writing, dissemination, and utilization for evidence-based and equity-focused policy advocacy; strategy development; and budgetary allocation.

The study also considered, to the extent possible, how Phase 5 of the PSNP programme supported the education of children from poor households, how it created linkages with the education sector, and how those linkages may contribute to addressing the problem of OOSC.

3. Technical approach and methodology

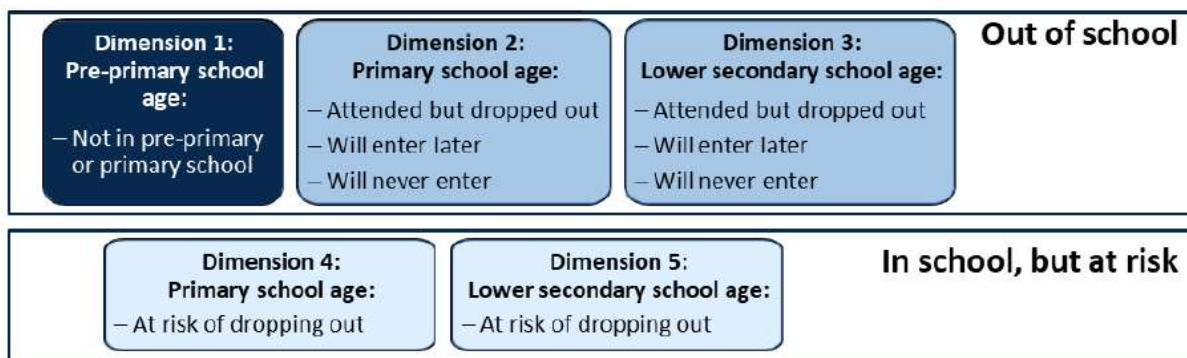
AIR designed a multistage, mixed-methods study on the situations of OOSC in Ethiopia to provide answers to four general questions:

1. What is the magnitude of children at risk of dropping out across Ethiopia?³
2. Which children are out of school or at risk of dropping out?
3. Why are children out of school in Ethiopia?
4. How can we prevent dropping out of school and accelerate the provision of basic education in Ethiopia?

To answer these questions, the research team used a four-step, mixed-methods approach, including (1) a desk review, (2) secondary quantitative data analysis, (3) primary qualitative data collection and (4) strategy development. Our approach aligns with the methodological approach of the *Global Out-of-School Children Initiative Operational Manual*.^{xvii} The guidance uses the Five Dimensions of Exclusion (5DE) model to analyse the situations of OOSC and those at risk of dropping out. The 5DE model presents groups of children categorized by age and whether they are currently out of school or in school but at risk (*see Figure 1*).

³ This question is adapted from the ToR to reflect the focus of this study on at-risk children, while the Luminos Fund focuses on the number of OOSC.

Figure 1. The Five Dimensions of Exclusion



Source: *Global Out-of-School Children Initiative Operational Manual*, p. 13.

http://uis.unesco.org/sites/default/files/documents/global-out-of-school-initiative-operational-manual-2015-en_0.pdf

Since the 2021 Luminos Fund draft study (described below) focused on OOSC before and during COVID-19 (Dimensions 1–3), this study focused on children who are at risk of dropping out of school (Dimensions 4 and 5). Our analysis focused on pre-primary, primary and lower secondary school-age children who are in school but at risk of dropping out. At-risk children could be, for instance, over-age for their grade, behind in learning metrics, or experiencing pressure to contribute labour for family income. This categorization formed the framework of analysis, grouping children according to various life cycle and policy needs.

In January 2021, Luminos completed a draft diagnostic study titled *Out of School Children Before and During COVID-19 in Ethiopia*. The study was carried out in two phases: (1) analysis of quantitative data on OOSC before COVID-19 and (2) identification of qualitative evidence on the net effect of COVID-19 on OOSC in the country. The study focused exclusively on Dimensions 1–3 of the 5DE framework. The study found the following on OOSC in Ethiopia before COVID-19:

- Dimension 1: Approximately 6 million pre-primary school–aged children (ages 4–6) are out of school. The two largest pastoralist regions, Afar and Somali, have the highest percentage of out-of-school pre-primary school–aged children.
- Dimension 2: Approximately 4.5 million primary school–aged children (ages 7–14) are out of school, with the highest percentage found in the Afar and Somali regions.
- Dimension 3: Close to 2.8 million lower secondary school–aged children (ages 15–16) are out of school, with the highest percentages in Gambela, Oromia, Ahmara and SNNP.

To calculate the number of OOSC in each of the three Dimensions, the study used the Adjusted Net Enrolment Rate (ANER), which helps compare the school-aged population from the census projection with children in the Education Management Information System (EMIS) database.

The team used the findings from this study to inform and feed into our evaluation and to conduct a full assessment of Dimensions 4 and 5.

3.1 Research questions

The team assessed the nature and extent of the OOSC problem in Ethiopia to develop context- and region-specific costed strategies and recommendations to address the issue at different levels of education administration and across children of different ages. We categorized the research questions into three components: (1) The ‘What’ and ‘Where’ Component: Profiles of Excluded Children; (2) The ‘Why’ Component: Barriers and Bottlenecks; and (3) The ‘How’ Component: Policies and Change Strategies. Below we describe each of these components and provide an evaluation matrix for each component.

3.1.1 The ‘What’ and ‘Where’ component: Profiles of excluded children

The first step to identify children at risk of dropping out of school in Ethiopia is to understand the extent of the problem and where it is concentrated. This component seeks to assess and document the profiles of OOSC using the 5DE. We followed the approach described in the *Global Out-of-School Children Initiative Operational Manual*. Since our study complements work by the Luminos Fund,^{xviii} which focused on the ‘What’ and ‘Where’ of Dimension 1–3, the AIR team generated slightly adjusted Evaluation Questions 1–4 focusing on children at risk of dropping out rather than on both OOSC (Dimensions 1–3) and those at risk (Dimension 4 and 5). In this way the analysis in this report is complementary rather than repetitive of the findings in the Luminos Fund study. To align the two studies, we have selected methods (using the OOSC Operational Manual) consistent with the Luminos study. Annex A (Table A1) contains the evaluation matrix used for this component, highlighting the evaluation questions and detailed indicators for assessing the number and profiles of at-risk children.

3.1.2 The ‘Why’ component: Barriers and bottlenecks

To provide a comprehensive picture of the situations of OOSC and at-risk children in Ethiopia, we need to understand the factors that contribute to low school enrolment and high dropout. The ‘Why’ component seeks to establish what is keeping children out of school or placing them at risk of dropping out. We answered the questions listed in the evaluation matrix used for this component (See Annex A, Table A2), identified relevant barriers, which align with the Monitoring Results for Equity Systems (MoRES) framework in Section 5.1 of the *Global Out-of-School Children Initiative Operational Manual*. Research questions focused on the relative

importance of demand, supply and political barriers, assessed based on evidence from secondary data and listings by key informants.

3.1.3 The ‘How’ component: Policies and strategies

The ‘How’ component assesses the policies, programmes and strategies that are in place to address the OOSC problem. Together, the research questions for this component seek to form a comprehensive overview of the key social protection and education programmes in Ethiopia, including elements incorporated to reduce OOSC, their effectiveness at keeping children in school (along the 5DE), and the extent to which programmes and policies have been designed and are being implemented through cross-sectoral collaboration. Annex A (Table A3) presents our evaluation matrix for this component, highlighting the research questions and illustrative indicators that guided us in strategically developing policy recommendations.

3.2 Methodology

The team’s technical approach consisted of four stages.

1. First, we assessed the existing evidence in terms of quality and evaluability, with the goal of identifying any data gaps and limitations of the analysis.
2. Second, we analysed existing quantitative data sources to establish the number of OOSC and those at risk of dropping out in Ethiopia and to document and analyse their profiles.
3. Third, we collected primary qualitative data to understand the push-and-pull factors that exclude children from school and encourage dropping out of school.
4. Finally, we systematically developed costed strategies to accelerate the provision of equitable and quality education for OOSC throughout Ethiopia.

The quantitative analysis focused primarily on Dimensions 4 and 5 and on addressing the ‘Why’ and ‘How’ components. For these questions, we looked at children’s survival rates at the end of each primary and secondary grade. We also created a profile of risk factors and characteristics associated with dropping out, including the reasons for dropping out in primary and lower secondary education. The following sections detail the components of our methodology.

3.3 Quantitative

Following an initial evaluability assessment of the available data, we conducted secondary quantitative analysis of these data to provide context-specific findings on the prevalence of OOSC. Our quantitative methods primarily address the ‘What’ and ‘Where’ component of the study by focusing specifically on children at risk of dropping out of school in Ethiopia and by documenting and analysing their profiles through the 5DE model. Our quantitative approach

supplemented the qualitative and policy analyses of the ‘Why’ and ‘How’ components of the study with results from econometric models (using existing quantitative data).

3.3.1 Data and sample

The quantitative approach relies on multiple sources to triangulate findings and indicators. We identified quantitative data that provide descriptive statistics on the numbers and profiles of OOSC and those at risk of dropping out of school (see Table 5). Our primary sources were the EMIS and Socio-Economic Survey data.

1. The EMIS data are administrative data on the school system. They contain information on student enrolment and repetition rates, sex, grade, level of education, and type of school (public, private or NGO). These data are used to estimate survival rates. In addition, the enrolment rates are the basis for calculating absolute numbers of children at risk of dropping out. We used data from 2019 (2011 E.C.) and 2020 (2012 E.C.).
2. We used the Ethiopia’s Socio-Economic Survey 2018–2019. These data are among the most recent national and regionally representative data and are rich in information on households’ education and socioeconomic background. The data include current and recent school attendance and reasons for not attending school. We used this background information for the statistical analysis predicting the risk factors associated with dropping out of school. Education questions are addressed to the main household respondent for all children in the household aged 4 years and older (the main caregiver answers for children 4–12 years old). The data are representative at the national and regional level, and by area.
3. In addition to these data sets, we used the World Bank’s household microdata from the high-frequency phone surveys that have been collected in Ethiopia since the start of the COVID-19 pandemic to perform analysis on the effects of COVID-19 on at-risk children. This data set consists of 10 rounds, with the first round being collected in April 2020 and the last round coming from February 2021. The phone surveys are collected among a subsample of the 2018/19 Socio-Economic Survey sample, and are representative at the national level and by urban/rural areas. Each round has different focus areas, so while access to basic services was covered in every round, specific questions on education were only included in Round 8 (December 2020).

Table 1 summarizes the quantitative data sources used for secondary analysis.

Table 1. Quantitative data sources

Data Source	Data Timeframe	Data Type
EMIS microdata	2019 and 2020	Education
Ethiopia’s Socio-Economic Survey (also World Bank’s Living Standards Measurement Study)	2018/19	Education
Ethiopia’s High Frequency Phone Survey of Households	10 rounds in 2020	Education

3.3.2 Data analysis

We divided our quantitative approach into three components, each of which contributes to the estimation of at-risk children and the risk factors they experience. The results speak to research questions 1 to 5 covering the ‘What’ and ‘Where’ components in the study design. The three steps also serve as additional inputs into answering ‘Why’ and ‘How’ questions by main findings to identify how policy recommendations can be approached.

Figure 2 shows our quantitative approach, which we describe in detail in the text that follows.

Figure 2. Overview of quantitative approach

	Component 1	Component 2	Component 3
	EMIS 2019/20	Socio-Economic Survey 2018/19	COVID High Frequency Survey 2020
	Estimating survival rates for children currently in school	Regression models on determinants of school dropout	Estimation of dropout due to COVID-19
“What” & “Where”	<ul style="list-style-type: none"> Estimate of number of at-risk children (Dimension 4 & 5) Estimate at-risk children by region, gender, type of school. 	<ul style="list-style-type: none"> Estimate which factors are positively or negatively associated with dropout rates 	<ul style="list-style-type: none"> Estimate of number of children at-risk of dropping out in 2020
“Why”		<ul style="list-style-type: none"> Prevalence of reasons for dropping out of school 	<ul style="list-style-type: none"> Prevalence of reasons for not attending school 2020
“How”	<ul style="list-style-type: none"> Identifying high risk ages and/or areas. 	<ul style="list-style-type: none"> Identifying high risk background factors, and most common reasons for dropout 	<ul style="list-style-type: none"> Identifying most common reasons for dropout

Source: Developed by study authors.

For Components 1 and 2 we closely followed the guidelines on how to estimate at-risk children outlined in Chapter 4 of the *Global Out-of-School Children Initiative Operational Manual*, which presents two separate approaches to studying those children at risk of dropping out.

Component 1: Survival rate analysis

For Component 1, we used the first method proposed in the *Operational Manual* (p. 45) for calculating the rate and number of children at risk dropping out of primary and lower secondary school, namely the calculation of the survival rate for each grade. These rates measure progress and completion of education. We calculated survival rates for a cohort of students using EMIS data from 2019 and 2020. Survival rate typically measures the percentage of a cohort of students enrolled in the first grade who are expected to reach either the next grade or the last grade of a given level or cycle of education. To provide a more detailed picture, we have estimated survival rates for each grade in Ethiopian schools, ranging from primary to secondary. To estimate the survival rates, we used a procedure called the reconstructed cohort method,

which is commonly used by UNESCO Institute for Statistics to make survival estimations.^{xix} The survival rate uses the following formula:

$$SR_{g,i}^k = \frac{\sum_{t=1}^m P_{g,i}^t}{E_g^k} * 100 \text{ with } P_{g,i}^t = E_{g,i+1}^{t+1} - R_{g,i+1}^{t+1}$$

where:

$SR_{g,i}^k$ = survival rate of pupil cohort g at grade i for reference year k

E_g^k = total number of pupils belonging to a cohort g at year k

$P_{g,i}^t$ = promotees from E_g^k who join successive Grades i throughout successive years t

R_i^t = number of pupils repeating Grade i throughout successive years t

The estimation requires data on the number of enrolments and repeaters in each grade in primary and secondary school in two consecutive school years. The first part of the calculation estimates the total number of students promoted to each grade ($P_{g,i}^t$) by subtracting the pupils belonging to a school cohort in the consecutive year (E_g^k) from the number of students who end up repeating a certain grade (R_i^t). For the second part of the calculation the survival rate per grade is calculated as children who are promoted as a percentage of all children who belong to a certain grade and cohort. The closer the percentage is to 100 per cent the more retention there is among students and lower incidence of dropout. We calculated survival rates on several dimensions, such as region, gender, and type of school.

The method using a reconstructed cohort model is based on the notion that pupils have three options, namely being promoted to the next school year, dropping out of school, or remaining and repeating the same grade. The method also assumes that there will be no additional entrants in any of the subsequent years during the lifetime of the cohort, and that flow rates will remain unchanged throughout the cohort life. These assumptions, as compared to using a true cohort followed from Grade 1 all the way to the end of primary school, will likely overestimate the survival rate for cases where there are a lot of children entering later grades. This may result in survival rates over 100 per cent.

Component 2: Risk factor for early school leaving

Component 2 of the quantitative approach follows the second method described in the *Global Out-of-School Children Initiative Operational Manual* for measuring children at risk of dropping out. For this analysis we used the Socio-Economic Survey 2018–2019. Based on questions of current school attendance, ever attending school and the highest level of education attained,

we established two groups of dropouts. The first group are primary school age children (7 to 14 years) who are currently not in school but have attended primary school in the past. The second group are lower secondary school age children (15 to 16 years) who are currently not in school but have at least finished primary school. The first and second group represent recent primary school dropouts and recent lower secondary school dropouts, respectively. Subsequently we conducted regression analysis to investigate the key covariates associated with dropout at both levels. This analysis highlighted factors associated with children who are at risk of dropping out. We used linear regression models to statistically test the significance and magnitude of individual-, household- and school-level characteristics for the likelihood of dropping out for children of different ages in primary or lower secondary school, including urban/rural area, household size, gender of household head, orphanhood and living with biological parents, people per room, parental employment, mother's education, availability of electricity, wealth quintiles, agricultural business ownership and experience of shocks.

The results are not causal, meaning that a positive association may not mean that this factor is the reason why a child is likely to drop out. However, significant associations are useful in identifying a profile of children who are at higher risk of dropping out.

The associated risk factors help to create a profile of at-risk students which can help to inform the recommendations on policies and strategies needed to help OOSC and at-risk students gain access to quality education (i.e., the 'Why' and 'How' components of the study).

Component 3: At-risk children due to COVID-19

Lastly, Component 3 of our quantitative approach focuses on the children at risk of not returning to school after the COVID-19 pandemic, as described in research question #5 in the evaluation matrix of the 'What' and 'Where' component (See Annex A, Table A1). For this step we use the World Bank's High-Frequency Phone Survey of Households in Ethiopia carried out during 2020 – in particular Round 8, conducted in December 2020. The phone surveys are conducted on a smaller sample than the Socio-Economic Survey and are only representative at the national and urban/rural levels. However, these data allow us to estimate the rate and number of children who were previously attending school but are not currently attending or enrolled for the next academic year 2021. In December 2020, respondents were asked about school attendance pre-COVID-19, enrolment for the school year, and current attendance. With these indicators we estimate the rate of children who have stopped being registered or attending school since 2020. We apply the rates to the number of enrolled students in 2019 (coming from the EMIS data) to obtain the absolute number of children at risk. Besides the rate and number of children at risk, we also analyse the reasons commonly reported for no longer

attending school. These reasons give insight into supply-side (e.g., school closure, limited classes offered) and demand-side (e.g., financial, health) barriers to returning to school.

3.4 Qualitative

The objectives of the qualitative component of this study are to answer the ‘What’, ‘Where’ and ‘How’ research questions and to produce the primary data necessary to answer the ‘Why’ research questions. AIR worked with UNICEF during the inception phase to add key informant interviews (KIIs) and focus group discussions (FGDs) to represent the demand-side perspective in our sample, which originally included only policy-level informants. The team also worked together to select informants from diverse regions, which helped ensure the strategies we develop will account for variation in the drivers of OOSC. Our revised sample includes education officials at the national, regional and woreda levels as well as those who oversee regions that have unique OOSC dynamics and characteristics. We worked with UNICEF to identify the key informants in accordance with the sampling framework. This section elaborates the purpose and sample for our qualitative approach.

Purpose of qualitative component. The KII and FGD protocols aimed to assess the three main components of the study in the following ways:

1. **The ‘What’ and ‘Where’ component (profiles of excluded children).** By probing key informants on who is missing from national data sets, the qualitative data will supplement the quantitative analysis by identifying children who are often ‘invisible’ in existing educational data sets – for example, children who have never been enrolled in school, children with undiagnosed disabilities and children who are refugees.
2. **The ‘Why’ component (barriers and bottlenecks).** The focus of the qualitative data collection is to address the research questions in this component and capture locally specific factors that drive out-of-school rates. We will tailor KII and FGD protocols to each respondent, ensuring that they articulate the context-specific barriers and bottlenecks (demand side and supply side) that drive out-of-school rates.
3. **The ‘How’ component (policies and change strategies).** Following the MoRES framework that informs the *Global Out-of-School Children Initiative Operational Manual*, the KII protocols will include specific questions related to the enabling policy environment, namely, questions on the policy and legal framework, budgetary and expenditure issues, and institutional management and coordination.

3.4.1 Sample

National level

At the national level, we collected and analysed primary data from education officials and other relevant experts in adjacent sectors. These interviews provided a broad overview of current OOSC dynamics, trends and policy. Table 2 describes our national-level sample.

Table 2. National-level sample

National level	Agencies/regions	KIIs (N)
Government officials and policymakers	Ministry of Education (MoE) Ministry of Women, Children and Youth Affairs Ministry of Finance (MoF) Ministry of Labour and Social Affairs	6
Education stakeholders	Representative from a civil society organization Representative from a non-governmental organization	2
UNICEF representatives	UNICEF Education programme section UNICEF Child Protection programme section	3

We conducted six key informant interviews (KIIs) with representatives from the Ministry of Education, Ministry of Women, Children and Youth Affairs, Ministry of Finances, and Ministry of Labour and Social Affairs. We also conducted a KII with a representative from the non-governmental organisation Hope for Justice and an education specialist from Save the Children Ethiopia. Lastly, we conducted KIIs with three representatives from UNICEF, two from the Education programme section and one from the Child Protection programme section.

Regional level

The existing literature makes clear that the factors that drive out-of-school rates vary based on localized contexts (e.g., the factors that drive out-of-school rates are different in refugee camps than in agricultural communities). The sampling approach sought to maximize variability across geography and government level and to account for contextual factors that are known to affect out-of-school rates. Table 3 describes our sampling by region, as agreed with UNICEF.

Table 3. Regional-level sample

Region	Woredas	Characteristics	Key Informants	Focus Groups
1. Oromia	1 (in person) Fentale	Dynamics, trends and policies related to OOSC in region with large population size, large number of OOSC, and IDPs	2 principal KIIs 2 regional education board (REB) members	1 teacher FGD 1 caregiver FGD = 2 total

Region	Woredas	Characteristics	Key Informants	Focus Groups
			= 4 total	
2. SNNP	2 (in person) Kochere Hawassa Zuria	Dynamics, trends and policies related to OOSC who live in industrial parks	1 principal KII 1 REB member = 2 total	1 teacher FGD 1 caregiver FGD = 2 total
3. Addis Ababa	2 (in person)*	Dynamics, trends and policies related to OOSC in urban slums	1 principal KII 1 REB member 2 OOSC (IDIs) = 4 total	1 teacher FGD 1 caregiver FGD = 2 total
4. Somali	1 (in person) Kebribeyah	Dynamics, trends and policies related to OOSC in pastoral/agricultural areas with a high proportion of OOSC and refugee hosting areas	1 principal KII 1 REB member = 2 total	1 teacher FGD 1 caregiver FGD = 2 total
5. Tigray	1 (remote) Mekelle	Dynamics, trends and policies related to OOSC who have been affected by conflict	1 principal KII 1 REB member = 2 total	
			14 KIIs	8 FGDs

Note. KII = key informant interview; FGD = focus group discussion.

* One school from Yeka Sub City was visited.

The regional sample included five regions that vary in geographic and contextual characteristics, including OOSC trends for areas with large populations, IDPs, and refugees who live in industrial parks, urban slums, conflict-affected areas, and pastoralist areas. For each of these five regions, we conducted key informant interviews with a principal and a regional education board (REB) member in each sampled woreda (two principals and two REB members in the case of Oromia). We conducted focus group discussions (FGDs) with teachers and caregivers in Oromia, SNNP, Addis Ababa, and Somali to include demand-side perspectives.

AIR's qualitative researchers trained the local team of interviewers from our subcontractor Kimetrica on the data collection process, good interview practices, data security, quality and transfer, and security of interviewers and respondents. Kimetrica conducted 12 interviews and 8 FGDs (face-to-face) following all local and international health guidelines to mitigate the risks related to COVID-19. Interviews with two informants in the Tigray region were carried out virtually, given the current conflict. At the national level, AIR (headquarters team and one local consultant) conducted eight interviews by Zoom and in person and Kimetrica conducted three interviews by phone and in person. All interviews were conducted using a semi-structured

protocol. The qualitative team monitored data collection with a sheet that interviewers used to track metadata (i.e., date of the interview, location, and respondent type). The interviewers digitally recorded all interviews for which we received permission from the respondent to record. The qualitative team received the interview transcripts translated into English.

3.4.2 Data analysis

Researchers developed a codebook to guide data organization and the process of deducting themes across three coders. Our codebook followed the structure of the interview protocol, using the overarching categories under each of the research questions. The team inputted the codebook into the NVivo 12 qualitative software programme to organize and subsequently analyse the qualitative data. At the start of the coding process, three researchers each coded a subset of transcripts independently and cross-examined one another's coding to ensure inter-rater reliability and to reach consensus on the coding scheme. Coders met periodically to ensure consistency, review progress, discuss emerging themes, and adjust the coding scheme as needed, using an inductive approach to capture the content that corresponded to prevalent themes of interest. The coding team reviewed coded content and revised coding as needed.

For strategy development, we synthesized qualitative and quantitative data to produce a high-level understanding of the salient dynamics and trends that are shaping the OOSC context in Ethiopia. We disaggregated the data to construct targeted cases focused on the specific OOSC populations in our sample by region and by situation.

See Annex B for a description of the research ethics measures the AIR team and its subcontractor took to prepare and carry out the research activities to ensure the safety, respect, and representation of research participants at every step of the process.

3.5 Limitations

The following are limitations of this study:

1. Given the current conflict in the Tigray region, our priority was the safety of our data collectors. Consequently, we did not access the Tigray region in person.
2. The Covid-19 pandemic may continue to limit our ability to collect in-person data in some circumstances. We will follow the guidelines provided by our section on research ethics as well as the guidelines of the Government of Ethiopia.
3. Due to the conflict in Tigray and COVID-19, there have been additional risks to school enrolment for which no large-scale secondary datasets are available. We used Ethiopia's High-Frequency Phone Survey of Households to provide some insight into changes in the past year, but data are limited in geographical representation due to the smaller sample.

4. Our primary qualitative data sample includes five regions with different characteristics. We believe that our sample reached the saturation of data needed to inform findings and strategy development. However, this sample is not representative, meaning that the results are not wholly generalizable, as they would be in a quantitative study.
5. Because UNICEF and the MoE are planning to roll out a strategy for school enrolment in August 2021, the amount of time to collect, analyse and report on data limits our scope and ability to sample each type of qualitative informant in each region.

4. Findings

We found that practical, economic considerations, such as the need for food and labour, drive demand-side barriers to enrolment and retention. Similarly, supply-side funding gaps, inefficiencies in resource allocation, and a lack of cross-sectoral coordination impede policies aimed to address the key drivers of exclusion of OOSC. This section presents the key findings for the three dimensions of our study by research question. For each research question, we first present results from our desk review, followed by a table summarizing the key findings from our primary research, and lastly an elaboration of the findings from the primary research. Table 4 shows the theory of change we developed based on the results.

Table 4. Theory of change to address high dropout

Root Causes	Problem	Strategy	Outputs	Outcomes	Impacts
Economically vulnerable groups lack means and motivation to continue schooling	Dropout in first grade	Pre-school	Children establish baseline knowledge for Grade 1	Grade 1 curriculum matches children's knowledge	Reduced dropout
	Dropout in primary to secondary transition	Establish more secondary schools and temporarily bridge distance	Distance becomes less of a barrier to attendance	Students more easily access secondary schools	
Supply- and demand-side economic considerations	Lack of money for food	School feeding programmes	Meals incentivize attendance	Children continuously attend school for meals	

Education sector strategic priorities	Lack of labour for income generation	Link curriculum to employment opportunities by region	Direct link between school and employment	Caregivers and students directly see benefits
	Cross-sector collaboration and tracking	Strengthen cross-sector MIS capacity at local levels	Better quality of local-level data	Improved tracking of at-risk students
	Infrastructure	WASH, with a focus on drinking water	Water incentives attendance	Students no longer thirsty in class

4.1 The ‘What’: Who is excluded from school participation

This section describes the situation of at-risk children. It includes answers on the magnitude of the problem for at-risk children, and the profile of children who are at risk of dropping out in terms of grade, gender and location. We also describe common risk and factors associated with dropping out. Lastly, we describe the increased risks in the past year, such as COVID-19.

4.1.1. The number of children who are at risk of being out of school

While the existing literature has an increasing focus on the profiles of children who are not in school, the literature is limited on which children are in school but are at risk of dropping out of school (Dimension 4 and 5). One reason for this limitation is the differences in the literature on to measurement of at-risk children. In the Global Initiative on OOSC in Zambia,^{xx} a combination of recent dropout rates and survival rates was used to determine the children at risk. Similarly, the *Sudan Country Report on Out-of-School Children*^{xxi} reported dropout levels as the proportion of children who are at risk, since these children start but not finish a certain school level. The regional report of 2013 on out-of-school children in the Eastern and Southern African region^{xxii} does not report the number of children at risk of dropping out at all but focuses on common risk factors. The Operational Manual on OOSC describes methods of using survival rates and the association with risk factors, which are both used in this report. The various approaches indicate the difficulty of placing one number on the children at risk of a possible future event. Despite the methodological difficulties, the literature agrees on the importance of recognizing the vulnerability of this group, who might require different programme and policy responses to keep them in school. See Table 4.1.1 on the key findings of this section.

Table 4.1.1. Number of children who are at risk of being out of school⁴

No.	Evaluation Question	Indicators	Key Findings
1	What is the estimated number of children who are at risk of dropping out of school in Ethiopia?	<ul style="list-style-type: none"> Survival rate per grade of primary school Survival rate per grade for secondary Number and percentage of children who are of primary school age and are at risk of dropping out. Number and percentage of children who are of secondary school age and are at risk of dropping out 	<ul style="list-style-type: none"> Survival rates for primary school range from 76% in Grade 1 to 91% in Grade 7. For secondary school survival rates vary from 73% in Grade 9 to 91% in Grade 11. Based on 2019 EMIS data about 3.0 million children are at risk of not progressing to the next grade in primary school. In lower secondary school 465,370 children are at risk of dropping out.

Survival rates at the national level give an indication of general trends in variation between grades. The national percentages also allow to calculate the number of children at risk of dropping out at each grade. As can be seen from Table 5, the survival rates were lowest in first grade (75.9 per cent) and ninth grade (72.7 per cent), both major transition phases for the child either starting primary school or starting lower secondary school. The number of children at risk are calculated as 100 per cent - survival rate. Across all grades 3.5 million children are at risk of not finishing the grade they enrolled in.

Table 5. Number of children at risk of dropping out per grade at national level

	Grade	Survival rate	Total students per grade 2019	Number of children at risk
Primary school	1	75.9%	3,845,711	926,877
	2	86.2%	3,069,248	424,829
	3	89.1%	2,742,151	301,559
	4	85.6%	2,578,249	373,208
	5	83.6%	2,243,083	367,351
	6	89.6%	1,881,089	200,094
	7	90.8%	1,670,843	162,007
	8	83.5%	1,525,983	252,036

⁴ RQ1 has been changed based on discussion after the inception report to only focus on children who are 'at risk of dropping out'. With this change this analysis is complementing rather than replicating the study by Luminos.

Lower secondary school	9	72.7%	1,244,154	343,172
	10	88.8%	936,985	122,198
Higher secondary school	11	91.3%	351,567	33,409
	12 ⁵		287,474	
Total			22,089,063	3,506,740

4.1.2 Regions with at-risk children

The broader literature on the regional disparities in education indicators, such as enrolment and dropout rates, indicates higher risk of dropout for children in rural and pastoral regions. The National Situation Analysis reports that the highest dropout rates are in Somali and Afar.^{xxiii} The findings are consistent with the multidimensional child poverty analysis, which finds the highest education deprivation levels (including attendance, grade-for-age and literacy) among 5- to 17-year-olds in Somali, Afar and Oromia. Lastly, the Luminos study^{xxiv} found that children in the pastoralist regions Afar and Somali are the most likely to be out of primary school. For lower secondary school, the percentage of OOSC is highest in Afar, Somali and Gambela.

It should be noted that there are some differences between the indicators, especially when comparing overall attendance or OOSC, which includes children who drop out and those who never attend at all. In Table 4.1.2 the key findings on at-risk children by region are presented.

Table 4.1.2. Key findings on at-risk children by region⁶

No.	Evaluation Question	Indicator	Key Findings
2	In which regions are those at-risk children?	<ul style="list-style-type: none"> The survival rates by grade of the previous questions disaggregated by region. 	<ul style="list-style-type: none"> Afar and Benishangul-Gumuz have the lowest average survival rates of about 80%. Oromia, Amhara and SNNP have the highest number of children at-risk. The highest and most stable survival rates throughout all grades are in Addis Ababa. For most regions, Grade 1 and Grade 9 are the highest risk grades.

⁵ No survival rates are available for grade 12, since we do not know how many children are still in school at the end of the year. For the other grades we estimate the percentage of surviving the grade and making it to the next grade.

⁶ The research questions 1 to 4 have changed to focus only on at-risk children to complement the Luminos study, as was decided in the inception phase of this project. The order of research questions has been changed to first discuss the location and profile of at-risk children first, after which we present common risk and protective factors for children dropping out of school.

We found considerable variation in survival rates across regions, even though within most regions the survival rates follow the same trend as the national level (see Table 6). The trend showed lower survival rates at Grade 1, then relatively stable survival rates between Grade 2 and Grade 8 and a sharp decrease at the beginning of lower secondary school. Subsequently, once in secondary school, there was an increasing trend as students approach Grade 12. Afar and Benishangul Gumuz had the lowest survival rates through the grades. Overall, Addis Ababa appears most successful in maintaining higher survival rates through the different grades of schooling. The average survival rates in the Gambela and Somali regions were high as well, but show more variation between grades. In both Gambela and Somali, with their high proportions of pastoralist and transient migrant populations, there were a few grades with survival rates above 100 per cent, suggesting an influx of new students entering the system. Given the differences in regional population sizes, Oromia, Amhara and SNNP have the largest number of children at risk of dropping out of school.

Table 6. Survival rates by grade and region

	Grade	National	Addis Ababa	Afar	Amhara	Benishangul	Dire Dawa	Gambela	Harar	Oromia	SNNP	Somali	Tigray
Primary school	1	75.9%	90.1%	66.1%	82.6%	61.7%	67.7%	71.2%	79.0%	71.4%	75.6%	96.2%	86.6%
	2	86.2%	97.8%	81.7%	85.6%	78.8%	82.8%	98.0%	79.9%	82.5%	89.7%	102.7%	91.0%
	3	89.1%	102.2%	84.0%	87.7%	85.5%	84.4%	104.1%	86.9%	85.4%	93.3%	99.9%	92.5%
	4	85.6%	102.7%	70.5%	86.3%	90.0%	88.1%	91.1%	90.4%	83.7%	84.8%	87.7%	90.2%
	5	83.6%	100.1%	75.4%	85.1%	80.0%	87.0%	94.1%	89.0%	79.7%	87.1%	79.3%	84.7%
	6	89.6%	105.8%	83.4%	88.1%	87.1%	91.0%	102.2%	99.5%	86.9%	94.4%	85.4%	88.8%
	7	90.8%	100.1%	82.3%	90.9%	89.9%	83.5%	121.6%	93.2%	82.8%	101.8%	99.7%	89.5%
	8	83.5%	87.0%	88.3%	83.4%	92.9%	83.8%	76.4%	112.7%	90.9%	75.1%	88.7%	72.7%
Lower secondary school	9	72.7%	83.6%	72.3%	66.2%	70.7%	81.5%	111.5%	71.2%	66.2%	84.8%	108.6%	73.6%
	10	88.8%	87.5%	87.4%	87.6%	50.6%	75.6%	51.7%	51.3%	105.3%	85.8%	75.1%	48.2%
Higher secondary school	11	91.3%	97.1%	93.1%	90.8%	86.6%	87.8%	126.4%	82.0%	87.0%	98.9%	115.6%	89.1%
Total Survival rate		85.2%	95.8%	80.4%	85.0%	79.4%	83.0%	95.3%	85.0%	83.8%	88.3%	94.4%	82.4%
Number of children at risk		3,506,740	35,737	38,065	745,013	61,075	16,966	16,286	9,097	1,681,924	641,904	48,517	212,157

Source: Authors' calculations with EMIS data from 2019 and 2020.

While the national survival rate at Grade 1 is 76 per cent, this masks variation in the success of school systems at keeping children in schools across regions. For instance, Benishangul-Gumuz had a survival rate of 62 per cent, nearly 15 percentage points less than the national average. Similarly, Oromia, Dire Dawa, Gambela, and Afar had survival rates of 71 per cent, 68 per cent, 71 per cent and 66 per cent, respectively, indicating substantial dropouts at the Grade 1 level.

The national survival rate at Grade 8 was 84 per cent, with most regions having similar survival rates in the range of 73 per cent to 87 per cent. We observed that Tigray had the lowest survival rate in Grade 8 of 73 per cent, closely followed by SNNP (75 per cent) and Gambela (77 per cent). Grade 9 was even lower at 73 per cent nationally, ranging from 66 per cent in Amhara and Oromia to 111 per cent⁷ in Gambela. We observed that across most regions, the survival rates decreased between Grade 8 and Grade 9. This confirms the findings at the national level that children are particularly at risk at the beginning and end of primary school.

4.1.3 Children at risk of school exclusion

To answer which children are at risk of being excluded from school, we have disaggregated the survival rates by two key characteristics: by gender and type of school owner (i.e., government, private, religious school, international community or other). The analysis on the levels of survival throughout primary and secondary school can be combined with the results of the next research question estimating the risk factors of dropout. Together the findings for research question #3 and #4 contribute to the profiles of children at risk of dropping out.

In reviewing the existing literature, it showed that while the gender gap is narrowing, girls are still at higher risk of not graduating or continuing to secondary school. According to the Situation Analysis on Women and Children of 2019, girls are more likely to drop out between Grades 1 and 8 than boys. For both boys and girls, retention in lower secondary school remains difficult, with high dropout rates in the transition to secondary school.^{xxv} These findings are consistent with the gender differences in the OOSC rates for boys and girls in the recent study by the Luminos Fund. Neither one of the studies provides insights into the differences in risk of dropout for different types of school ownership. Key findings on the survival rates by gender and ownership of the schools are presented in Table 4.1.3.

⁷ Survival rates above 100% are a result of using the reconstructed cohort model, which assumes that there are no additional entrants in the subsequent years besides those who either promote or repeat. When the rate is above 100% there was likely an inflow of unaccounted-for students in the given grade.

Table 4.1.3. Children at risk of school exclusion⁸

No.	Evaluation Question	Indicator	Key Findings
3	Which children are at risk of exclusion from schooling?	<ul style="list-style-type: none"> Survival rate by primary school grade, disaggregated by gender and type of school. Survival rate by secondary school grades disaggregated by gender and type of school. 	<ul style="list-style-type: none"> At national level the survival rates by gender show minor differences. However, there is an inflection point whereby survival rates of girls are higher up to Grade 7 after which boys have a higher likelihood to stay in school. The largest gender differences are observed in Tigray (higher survival rates for girls), Gambela and Somali (both higher survival rates for boys).

Survival rates by gender

Table 7 presents the survival rates by gender and grade at the national level (See Annex Table A4 for the survival rates by gender and region). The comparison indicates at in which grade gender differences are most pronounced.

Table 7. Survival rates by grade and gender at the national level

	Grade	Boys	Girls
Primary school	1	75.6%	76.3%
	2	86.0%	86.6%
	3	88.7%	89.6%
	4	85.2%	86.1%
	5	82.7%	84.7%
	6	88.9%	90.3%
	7	90.7%	90.9%
	8	84.5%	82.4%
Lower secondary school	9	72.5%	72.9%
	10	93.6%	83.4%

⁸ The research questions 1 to 4 have changed to focus only on at-risk children to complement the Luminos study, as was decided in the inception phase of this project. The order of research questions has been changed to first discuss the location and profile of at-risk children first, after which we present common risk and protective factors for children dropping out of school.

	Grade	Boys	Girls
Higher secondary school	11	91.6%	90.9%
Total		85.5%	84.9%

We found that survival rates for female students were comparable to survival rates for male students at the national level and across most regions. Male students had a slightly lower survival rate at Grade 1 (75.6 per cent versus 76.3 per cent). The national female survival rate remained slightly higher than the male survival rate until Grade 7. Grade 8 is likely to be an inflection point, with male students having a 2-percentage-point higher chance to survive until the next grade (84.5 per cent versus 82.4 per cent).

At the regional level, the exceptions to the similar gender survival rates were Tigray, where survival rates were on average higher for girls than for boys, and Gambela and Somali, where the survival rates for boys were higher. Noteworthy in Afar, male students had higher survival rates than female students up to Grade 8, at which point the trend reversed and female students had a higher survival rate. However, in Amhara, we observe the opposite – female students had higher survival rates than male students up to Grade 8 but not later.

Survival rates by school type

Table 8 shows the differences in survival rates across the various school types or owners. In this table we include government schools, private schools, religious schools (e.g. schools run by mosques, missions or churches), schools administered by international organisations, and other schools. Across levels of education, survival rates differ by school type as shown in Table 8.

Table 8. Survival rates by grade and school ownership

	Grade	Government schools	Private schools	Religious schools	Administered by international community	Other schools
Primary school	1	77.1%	93.3%	78.5%	143.2%	88.8%
	2	87.8%	94.0%	84.7%	161.3%	97.9%
	3	91.0%	95.7%	84.8%	163.4%	101.0%
	4	87.7%	92.8%	77.5%	152.6%	101.6%
	5	84.9%	96.5%	81.8%	147.3%	104.1%
	6	91.2%	98.9%	88.0%	150.4%	111.7%

	Grade	Government schools	Private schools	Religious schools	Administered by international community	Other schools
	7	93.3%	98.6%	86.6%	142.4%	106.8%
	8	88.2%	65.5%	64.1%	101.8%	99.3%
Lower secondary school	9	71.9%	93.7%	99.8%	180.8%	86.1%
	10	90.1%	71.8%	76.8%	195.9%	89.2%
Higher secondary school	11	90.1%	104.2%	109.3%	197.2%	100.4%
Total		86.7%	91.4%	84.7%	157.9%	98.8%

Private schools had higher rates of survival across all grades in primary schooling compared to government-owned and religious schools, but religious schools performed better at the secondary school level. An exception to this trend is Grade 8, where we observed that government schools had a survival rate that is 20 percentage points higher than faith-based or private schools. This could indicate strategic choices made by non-government schools to boost their passing rates. Alternatively, there could be a reporting error for private and religious schools when children transition to secondary schools with a different ownership.

We observed that survival rates for schools administered by international organizations were consistently greater than 100 per cent. Survival rates above a 100 per cent mean that the number of children starting the next grade exceed the previous grade’s enrolment plus repeaters. This is possible when children enter school in later grades. Especially in schools in volatile regions (e.g., camps, humanitarian crises) we consider this a high possibility. Most schools funded by international organisations are in these locations.

4.1.4 Characteristics of children who are out of school

Our desk review indicates various factors associated with higher risk of dropping out. Wealth is an important determinant of dropout,^{xxvi} along with other economic indicators such as household income or poverty. Parental education and knowledge are mentioned as protective factors in that parents with higher education can provide support for their children’s learning. Lastly, children with disabilities, orphans and other vulnerable children are also likely to have higher dropout rates due the not receiving adequate support to succeed in school. In the section below we analyse the association between wealth, parental education and other background characteristics with dropout from primary and secondary school. Table 4.1.4 presents the key findings of this section.

Table 4.1.4. Risk and protective factors of children who are out of school

No.	Evaluation Question	Indicators	Key Findings
4	Which children are out of school?	<ul style="list-style-type: none"> Risk and protective factors associated with dropout in primary school. Risk and protective factors associated with dropout in lower secondary school. 	<ul style="list-style-type: none"> For primary school-aged children, protective factors are mother’s education and living with at least one biological parent. Risk factors for primary school-aged children are orphanhood and living in housing that is more crowded. For secondary school-aged children, risk factors are more mixed. Living in urban areas and living with at least one parent are generally contributing to staying in school.

Risk factors for dropping out of primary school

Table 9 presents the main risk factors (red, with a positive relationship) and protective factors (green, with a negative relationship) associated with the risk of dropping out of primary school (See Table 9 for general association and Annex Table A5 for the regression outputs).

Table 9. Risk and protective factors for dropping out of primary education

	National	Tigray	Afar	Amhara	Oromia	Somali	Benishangul	SNNP	Gambela	Harar	Addis Ababa	Dire Dawa
Child: female						-					++	
Urban area (reference: rural)											x	
Household size (more than 6 people)			--						--			
Household head is female	+								--			
Lives with at least one biological parent	--											
Orphan (i.e., both parents died)		+++		+++								
Number of people/room	++					+++		+++				
Father is employed		++	--		+++		---	---		-	+++	+++
Mother is employed								++				+

	National	Tigray	Afar	Amhara	Oromia	Somali	Benishangul	SNNP	Gambela	Harar	Addis Ababa	Dire Dawa
Mother education: some primary (ref: no education)	---				--		-					
Mother education: some secondary					---							
Mother education: more than secondary education	---				--			---				
Electricity available in the house												
Wealth quintile: middle, richer or richest (ref: poorest or poorer)									+			
Owns a non-agricultural business			--							--		
Number of shocks in the past 12 months			++								-	

Note: --, --- indicate negative relationships at, respectively, $p < 0.01$, $p < 0.05$, $p < 0.1$. +, ++, +++ indicate positive relationships at, respectively, $p < 0.01$, $p < 0.05$, $p < 0.1$. x means unavailable variable.

At the primary level, we found that the mother’s education is highly associated with preventing dropout. A mother with at least some primary education or more than secondary education (as opposed to no education at all) was negatively related to their children dropping out of primary school. For example, having a mother who had completed some primary school reduced the probability of a child dropping out of primary school by 4 percentage points. Another protective factor was living with at least one biological parent. For risk factors, at the national level we found that children living in overcrowded houses (i.e., more people per room) were more likely to drop out. Having a female household head is also associated with a higher likelihood of dropout, although this variable was only weakly statistically significant.

We found no consistent predictors of dropping out across regions. For instance, we observed an association between the gender of the student and likelihood of dropping out in Somali, Addis Ababa and Dire Dawa, but the relationship was positive (increased likelihood of dropping out for girls) in Addis Ababa and Dire Dawa and negative (decreased likelihood of dropping out

for girls) in Somali⁹. A household size of greater than six decreased the likelihood of dropping out in Afar and Gambela, whereas having more people per room within a household increased the likelihood of dropping out in Somali and SNNP.

Risk factors for dropping out of secondary school

At the secondary school level, we found that the mother’s education again plays an essential role. In this case, we observe that only mothers with more than secondary level of schooling decrease the likelihood of dropout (See Table 10 for general association and Annex A, Table A6 for the regression outputs). In addition, we found that living in urban areas increased the likelihood of staying in secondary school. Curiously, we also observed that the number of shocks experienced by the household in the last year decreased the likelihood of dropping out. We suspect this is either related to households’ formal and informal safety nets, or alternatively it could be that most shocks were reported in households with other underlying positive characteristics (e.g. urban areas, higher wealth).

Table 10. Risk and protective factors for dropping out of secondary education

	National	Tigray	Afar	Amhara	Oromia	Somali	Benishangul	SNNPR	Gambela	Harari	Addis Ababa	Dire Dawa
Child: female												
Urban area (reference: rural)	--		---	-							x	
Household size (more than 6 people)												
Household head is female												
Lives with at least one biological parent										-	-	
Orphan (i.e., both parents died)											--	
Number of people/room												

⁹ The results indicate the significance and direction of the relationship between each variable and covariate. For instance, the differences in gender associations between Somali and Addis Ababa does not indicate a that gender differences are larger in a certain region. The association shows the relationship between dropout and child’s gender in the respective region.

	National	Tigray	Afar	Amhara	Oromia	Somali	Benishangul	SNINPR	Gambela	Harari	Addis Ababa	Dire Dawa
Father is employed												+
Mother is employed					--	+++						
Mother education: some primary (ref: no education)		---										
Mother education: some secondary						+++						
Mother education: more than secondary education	---										---	
Electricity available in the house							-			--	+++	
Wealth quintile: middle, richer or richest (ref: poorest or poorer)		+++		-	+++	-				-	+++	
Owns a non-agricultural business		++										+++
Number of shocks in the past 12 months	---				-			-			--	

Note: --, --- indicate negative relationships at, respectively, $p < 0.01$, $p < 0.05$, $p < 0.1$. +, ++, +++ indicate positive relationships at, respectively, $p < 0.01$, $p < 0.05$, $p < 0.1$. x means unavailable variable.

We found no consistent predictors of dropping out across the regions. For instance, we did not observe an association between the gender of the student and likelihood of dropping out across regions. In Dire Dawa and Tigray, the household owning a non-agricultural business increased the likelihood of dropping out at the secondary school level. Similar counterintuitive relationships were found in Tigray and Oromia regarding the household being in a higher wealth quintile. For both sets of results we think the results are correlated with having limited variation within the region. We found mixed results for mothers who are employed; in Oromia they reduced the likelihood of dropout while in Somali they increased the likelihood. Employment included agricultural and other employment. Households with a mother who needs to contribute to the agricultural work to ensure a minimum subsistence level might be less well-off than households with a mother who are not employed.

Some of these results are likely due to the relatively small number of secondary school children who drop out. In some regions dropping out of secondary school may suggest that a household is similar to households with primary school dropouts; in other regions this can suggest that the household is better off, since the child survived until the start of secondary school.

4.1.5 Children who did not return to school following school closures due to the COVID-19 pandemic

While nationwide data for the time since the COVID-19 pandemic are still limited, there is no doubt that children faced additional challenges in the 2020/2021 school year. The situation reports,^{xxvii} indicate that between March and December 2020, 5 million children needed humanitarian assistance due to the COVID-19 pandemic, the conflict in Tigray^{xxviii} and flooding, in addition to the almost 4.9 million who were already in need of assistance in 2020. The humanitarian situation did not only affect children’s education, but they often experienced a compound of various deprivations in terms of health, education, WASH and nutrition. Given that the global pandemic is ongoing, and some schools are still closed or have not resumed all classes yet, it is difficult to estimate the number of children who will not return to school following the COVID-19 pandemic. In December 2020, eight regions reported reopening 98 per cent of schools following months-long COVID-19 related closures; however, the re-enrolment rate stands at only 89 per cent.^{xxix} While some of these children might re-enter with a delay, the risk of permanently dropping out of school increases the longer the period is that children are not attending school. The section below indicates the proportion of children at risk due COVID-19, and Table 4.1.5 provides the key findings of this section.

Table 4.1.5. Children who did not return to school following the COVID-19 pandemic

No.	Evaluation Question	Indicator	Key Findings
5	What is the estimated number of children who did not return to school following school closures due to the COVID-19 pandemic?	<ul style="list-style-type: none"> Percentage of children at-risk of dropping out due to COVID-19-related risk factors. Main reasons children were not in school in 2020 	<ul style="list-style-type: none"> Between 2.0 and 2.9 million primary school children (10–15% of pre-COVID students) are at risk of not returning to school. Between 471,508 and 544,315 children (14–16% of pre-COVID students) are at risk of not returning to secondary school after the pandemic. Main reasons: 1) schools and classes have not resumed yet; 2) lack of stability in region; 3) needed contribution to household finances among older children.

In December 2020, as part of the COVID-19 High Frequency Phone Survey, household heads were asked whether their children were registered for the school year 2021 (2013 E.C.) and were attending school. From the children who were attending primary school pre-COVID-19, 10 per cent did not register, and an additional 4 per cent registered, but decided not to attend school in the prior four weeks. In total, this meant that between 2.0 million and 2.9 million primary school students were at risk of not returning to school. For secondary school children, about 14 per cent of those who attended school pre-pandemic did not register for the current

year, while an additional 2 per cent did not attend in the prior four weeks. Using EMIS enrolment data from 2020, this meant that between 471,508 and 544,315 children were at risk of not returning to school after the pandemic (See Table 11). Some of these children may return to school once schools are reopened and classes resume as before the pandemic.

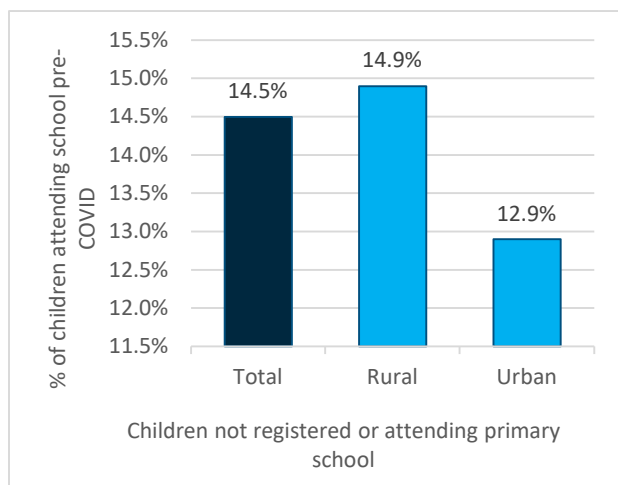
Table 11. Children not registered or attending primary or secondary school

Indicator	Percentage of pre-COVID-19 attending children	Number of children not returned
Primary School		
Not registered for school year 2021	10.10%	2,011,871
Not registered for school year 2021 or has not attended school for last 4 weeks	14.50%	2,888,329
Secondary School		
Not registered for school year 2021	13.60%	471,508
Not registered for school year 2021 or has not attended school for last 4 weeks	15.70%	544,315

Note: Authors' calculations using Round 8 (Dec. 2020) of the COVID-19 high Frequency Phone Survey of Households. The survey does not distinguish between lower and higher secondary school. Number of children is based on EMIS 2020 enrolment data with 19,919,513 primary school and 3,466,972 secondary school children.

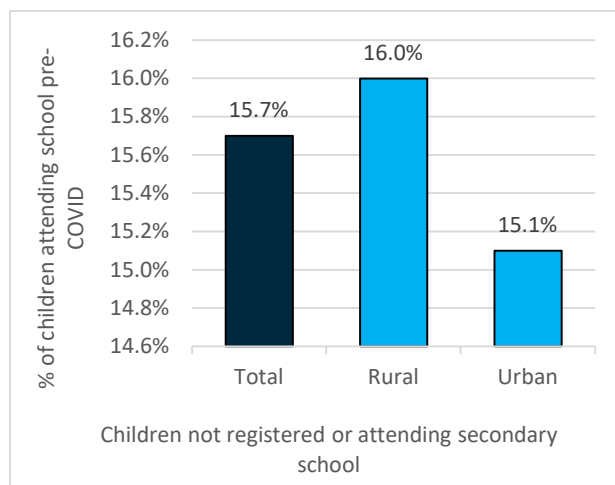
Figures 3 and 4 indicate that about 11 per cent of the children in primary school and 12 per cent of the children in secondary school pre-COVID are not registered for the 2021 school year or were not attending in December. The percentages are slightly higher in rural areas for both primary and secondary school. Since the COVID-19 high Frequency Phone Surveys were not collected on a representative region sample, we cannot report the regional disparities.

Figure 3. Children not registered or attending primary school as proportion of in-school children pre-COVID 19



Source: Authors' calculations using Round 8 (December 2020) of the COVID-19 high Frequency Phone Survey of Households 2020.

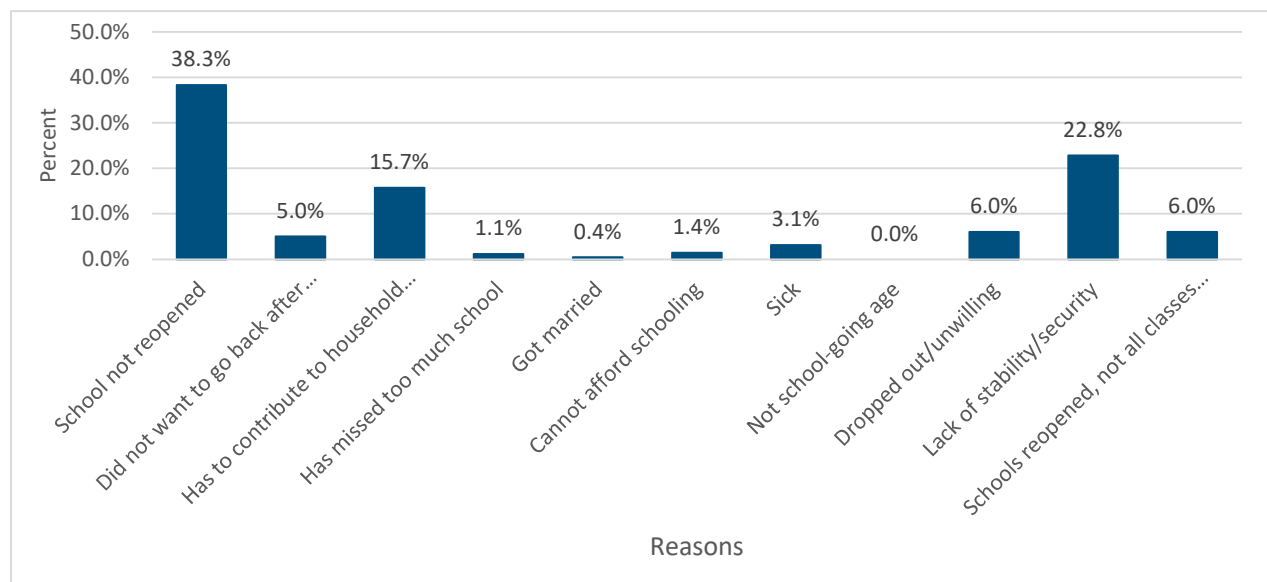
Figure 4. Children not registered or attending secondary school as proportion of in-school children pre-COVID 19



Source: Authors' calculations using Round 8 (December 2020) of the COVID-19 high Frequency Phone Survey of Households 2020.

Of those children who stopped attending primary school since the outbreak of the COVID-19 pandemic, the largest proportion (44 per cent) did not return because either the school was not reopened or classes were not resumed. Other common reasons cited were the lack of stability and security (23 per cent), which were exclusively mentioned in Tigray and Benishangul-Gumuz due to the conflict and instability in those regions, and having to contribute to household finances (16 per cent). The latter reason might point at increased deprivation due to loss of income during the pandemic (See Figure 5).

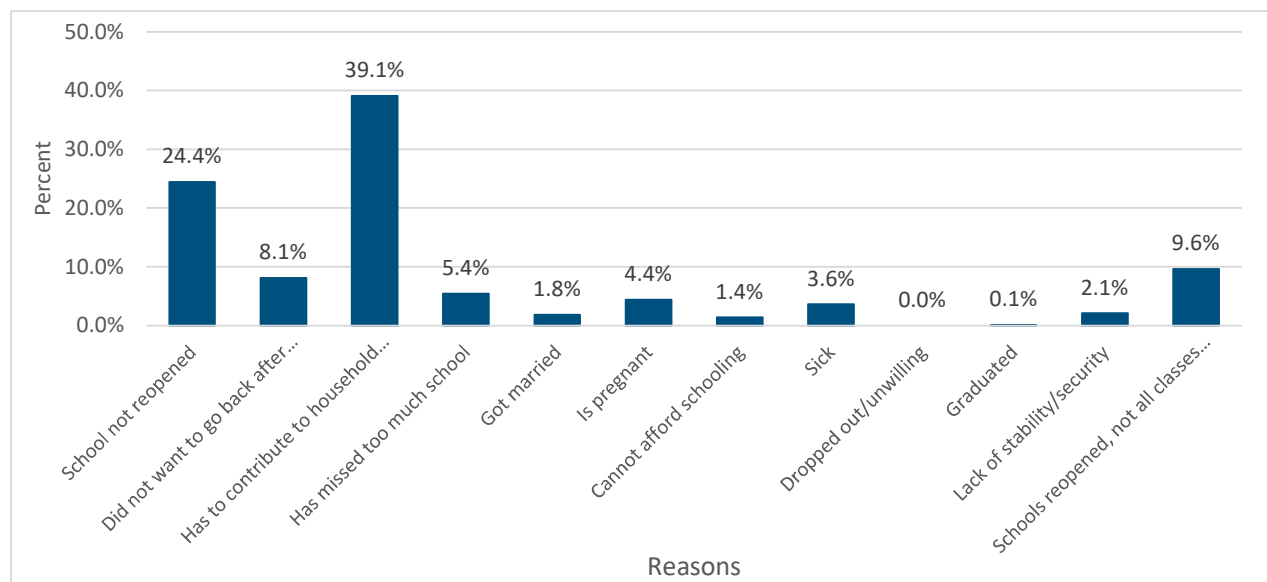
Figure 5. Reasons for not registering or attending primary school in December 2020



Source: Authors' calculations using Round 8 (December 2020) of the COVID-19 high Frequency Phone Survey of Households 2020.

Figure 6 indicates the most common reasons reported for children who are no longer registered or attending secondary school since the start of COVID-19. The main reason for children of secondary school-age is that since the pandemic they needed to contribute to household finances (39.1 per cent). More than one-third of the children (34 per cent) were not going to school because schools had not been reopened or their classes had not resumed. While the data do not allow for disaggregation by gender, the 6 per cent of children who got married or were pregnant is noteworthy, as it suggests gender differences in how the pandemic has affected school attendance.

Figure 6. Reasons for not registering or attending secondary school in December 2020



Source: Authors' calculations using Round 8 (December 2020) of the COVID-19 high Frequency Phone Survey of Households 2020.

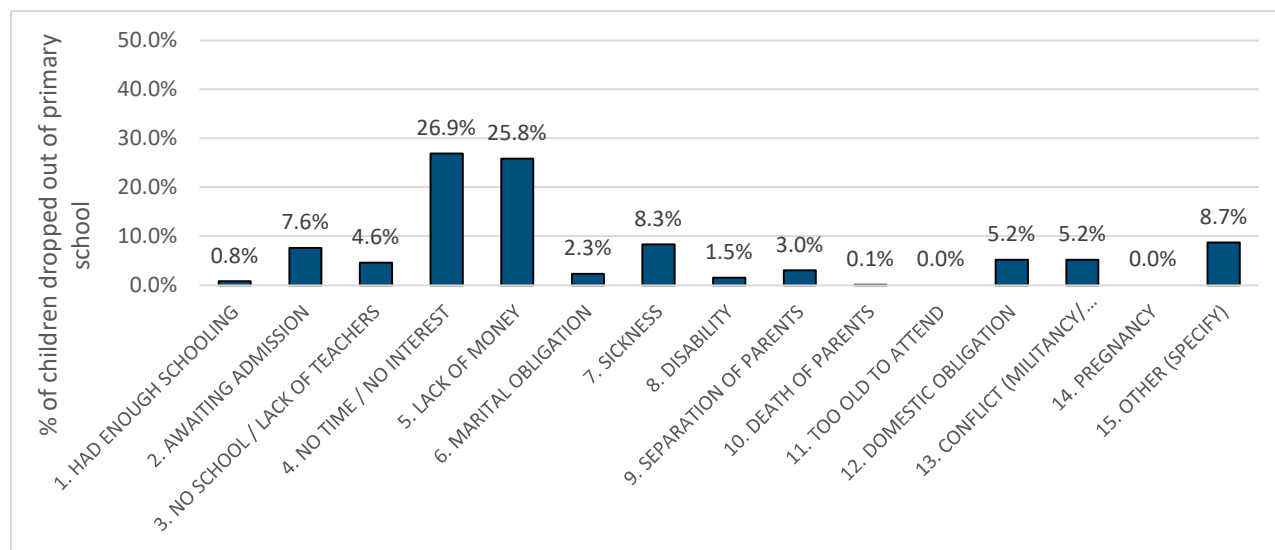
4.2 The 'Why': Underlying factors and causes of exclusion

This section describes the underlying factors and causes of exclusion. It differentiates between demand-side (socio-cultural and economic) and supply-side barriers to enrolment and retention. In addition, it outlines key political, government capacity and financial bottlenecks for policy and strategy implementation addressing OOSC issues.

4.2.1 Main reasons for school dropout according to 2018–19 Socio-Economic Survey

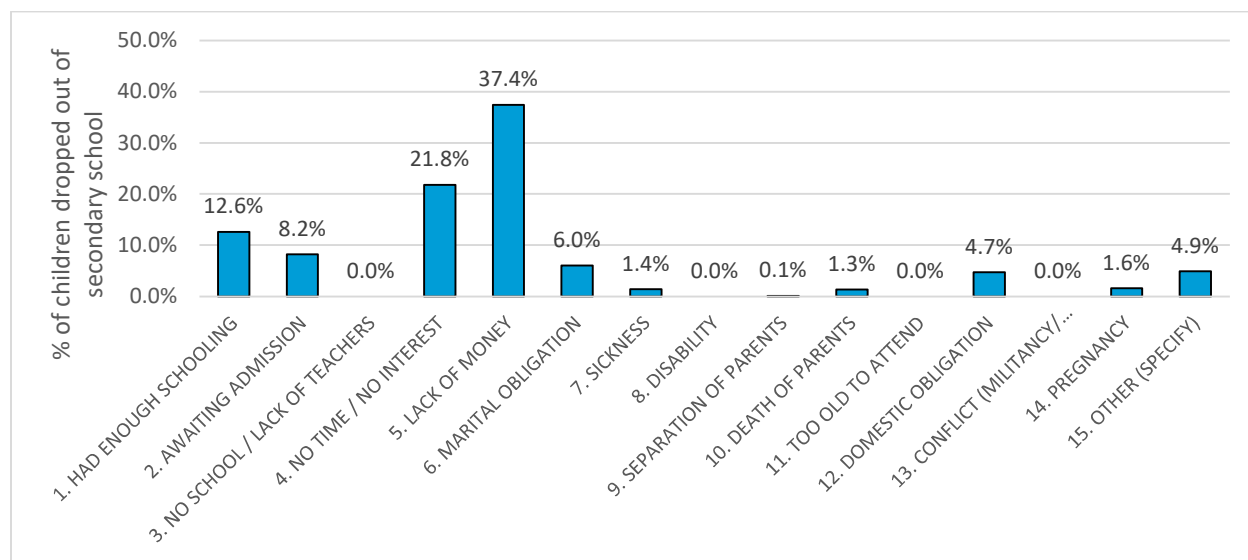
When caregivers in the 2018–19 Socio-Economic Survey were asked about the main reasons for their primary school-aged children dropping out of school (See Figure 7), they mentioned a combination of demand-side economic barriers (e.g., lack of money – 26 per cent) and motivational reasons (e.g., lack of time/interest – 27 per cent), supply-side barriers (e.g., awaiting admission – 8 per cent) and context-specific reasons (e.g., conflict – 5 per cent). For secondary school-aged children, who dropped out after primary school, the economic demand-side barriers (e.g., lack of money – 37 per cent, had enough schooling – 18 per cent) became even more salient (See Figure 8). While 'no interest or time' is another demand-side barrier, its underlying factors may be related to the quality of education or the increasing opportunity costs by age. In this section, we describe demand- and supply-side, context-specific barriers and bottlenecks that drive out-of-school rates in more depth.

Figure 7. Main reasons for primary school–aged children to drop out of school



Source: Authors' calculations – Socio-Economic Survey 2018–19.

Figure 8. Main reasons for secondary school–aged children to drop out of school



Source: Authors' calculations – Socio-Economic Survey 2018–19.

4.2.1 Demand-side sociocultural barriers to school enrolment and retention

Our desk review indicates broad consensus on the demand-side sociocultural barriers that negatively affect school enrolment and retention, though some are more evident in particular regions. Traditionally prescribed gender norms play a role in the decision of some caregivers to enrol, keep, or pull their children out of school. For boys, income-generating activities may take

precedence over education.^{xxx} In rural areas, for example, more boys than girls are expected to quit school for full-time farming,^{xxxi} though research shows that some children try to balance education with their productive responsibilities.^{xxxii} On the other hand, girls are normally assigned to domestic and childcare chores at home, which limits their ability to attend and perform in school.^{xxxiii} Child marriage – more common in rural areas – also affects girls’ retention rates, particularly completion and transition from primary to secondary school.^{xxxiv} Ethiopia has one of the highest child marriage rates in the world; UNICEF estimates there are around 15 million child brides in Ethiopia, 6 million of whom married before the age of 15.^{xxxv}

Other barriers affecting both girls and boys include violence against children (VAC) in schools and school-related gender-based violence (SGBV), which manifest in different forms, including verbal and emotional abuse, bullying, sexual violence, physical violence, and harassment.^{xxxvi} ^{xxxvii} According to research by Young Lives, “By age 8, over one-third (38 per cent) of children have experience corporal punishment in schools.”^{xxxviii} Boys more often suffer corporal punishment while girls more often face sexual violence and harassment.^{xxxix}

These barriers also came up in our interviews, which also provided some differentiation in how these barriers affect enrolment and retention by region. Table 4.2.1 presents our key findings on demand-side socio-cultural barriers to school enrolment and retention.

Table 4.2.1. Key findings on demand-side socio-cultural barriers

No.	Evaluation Question	Indicator	Key Findings
1	What is the evidence on demand-side sociocultural barriers?	<ul style="list-style-type: none"> Perceived barriers for boys, such as discrimination, violence and safety issues, and cultural practices by education level Perceived barriers for girls, such as discrimination, violence and safety issues, and cultural practices by education level 	<ul style="list-style-type: none"> Concerns for children’s safety against violence is a factor in caregivers’ decision-making on enrolment and retention, especially for girls Prevalence of harmful child marriage practice, particularly in rural areas, remains a barrier to girl’s education Traditional gender roles assigned to girls coupled with caregivers’ perceived value of girls’ education hinders girls’ learning opportunities

Caregivers’ safety concerns affect children’s ability to enrol or stay in school—especially girls
 Parents’ concerns for their children’s safety on their way to school is a deterring factor for school attendance, especially for girls. Several respondents indicated that parents are afraid their daughters might be harassed, sexually assaulted, raped, or abducted on their way to

school, affecting girls' opportunity to learn. School distance plays a major role in caregivers' fear of their children's potential exposure to violence. A school principal from Tigray explained, "In the case of girls, families may not tolerate school distance as much as they would for their sons due to fear of rape and gender-based violence." Similarly, an REB member from Tigray noted, "...school distance is one of the major determining factors for low enrolment. Parents, especially, will not allow their daughters to travel a long distance for fear of violence."

Prevalence of child marriage interrupts schooling and leads to dropout

Although child marriage is less common now in Ethiopia than in previous decades, it remains a barrier to girls' education. Key informants said early marriage contributed to school dropout, particularly in rural and remote areas. Early marriage appears to be driven both by traditional beliefs about females' role in society as well as an economic incentive for households. One UNICEF representative said, "Dowry for girls is one motive for early marriage. This is widely practiced in remote rural areas." Girls tend to be married at the age of 15 to 16 years, interrupting their transition from primary to secondary school. Consistent with data showing over 50 per cent of women marrying as children in Somali (a figure trending upwards),^{xi} respondents from this region pointed to child marriage as one of the main barriers. A school principal from Somali said, "There is a wrong belief that considers as education is useless to girls. This makes girls hopeless, and they are forced to marry [...] and stop learning."

Traditional gender roles and perceived value of education hinder girls' learning opportunities

Attitudes of parents and the community towards girls' education appear to be changing; for instance, a group of caregivers from SNNP explained that the "old trend of keeping girls in the house to do household chores" has reduced significantly and that girls are attending school equally as boys. However, our study also shows that some beliefs and practices concerning girls' role in society persist and are an obstacle to their school enrolment and retention. Some households prioritize boys' education over girls' learning for similar reasons, including the belief that educated boys can accomplish more than girls and girls should be responsible for helping with household chores. A teacher from SNNP explained, "There are some people who believe educated people will not go any further than other laypeople. This is also worst when it comes to girls. Those people often want their daughters to take household responsibilities."

4.2.2 Demand-side economic barriers to school enrolment and retention

With poverty as an underlying factor, education remains an unaffordable option for many households. Prior research shows that many low-income parents are unable to pay for indirect school costs (e.g., school uniforms and supplies) and depend on their children's labour to supplement household income.^{xli xlii} According to the 2015 National Child Labour Survey, 24.2 per cent of 5- to 17-year-olds were engaged in child labour, with boys more involved than girls

(29.1 per cent versus 18.9 per cent).^{xliii} An analysis of the survey data found that “both school and employment increase until children are 11 years old, with 79.9 per cent of children enrolled in school and 59.5 per cent working at the age of 11. Thereafter, employment continues to increase while school enrolment drops. The school life expectancy is lower for children engaged in child labour, suggesting that child labour is clearly linked to less schooling.”^{xliv}

Aside from raising similar challenges, our study also suggests economic factors are a stronger predictor of low enrolment and high dropout than sociocultural barriers. Discussions with key informants indicate that families’ poor economic conditions are the primary demand-side barrier. We also gained greater insight into the perceived economic value of education and the additional challenges brought on by recent disruptive events. Table 4.2.2 summarizes the key findings on demand-side economic barriers to school enrolment and retention.

Table 4.2.2. Key findings on demand-side economic barriers

No.	Evaluation Question	Indicator	Key Findings
2	What is the evidence on demand-side economic barriers?	<ul style="list-style-type: none"> Existence and magnitude of school fees and out-of-pocket expenditures for education Prevalence of child labour Impact of large-scale shocks (e.g., COVID-19, civil war) on household economies 	<ul style="list-style-type: none"> Child labour to support family livelihood and supplement household income leads to dropout Indirect school costs remain cost-prohibitive for low-income families There is some uncertainty about the value of education vis-à-vis its perceived economic benefits The COVID-19 pandemic and internal conflict affect a household’s ability and willingness to send their children to school

Child labour to supplement household income leads to school dropout

Several respondents indicated that low-income households, especially those with agrarian and pastoralist livelihoods,¹⁰ need their children’s labour to help with daily farming and grazing activities to generate additional income. Most respondents indicated needing their children’s labour to cover basic needs, frequently citing the ability to feed family members as a concern. A primary school director from Tigray said, “...there are many young children who are obliged to drop out of school to support their families [...] Those children are forced to stop schooling because their families can’t afford to feed their children and cover school-related expenses.”

¹⁰ According to the ILOSTAT database, 67 per cent of Ethiopia’s workforce is employed in agriculture (<https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=ET>).

Indirect school costs such as transportation, uniforms, and books are cost-prohibitive to some

Respondents frequently cited families' inability to cover indirect school costs and related expenses as a reason for school dropout. This is especially true for large families. An education official from Somali explained, "Very poor families with low income that have many children are not capable to offer necessary educational materials (book, pens, uniform, bags, etc.) to all children. So, such families don't send all children to school."

Caregivers doubt the value of education vis-à-vis its perceived economic benefits

Several respondents expressed that caregivers and the broader community generally lack awareness of the benefits of education. This sentiment was shared across the five regions, but to a lesser extent in Addis Ababa. Others argued that parents recognize the value of education but face immediate economic needs that influence their decision to interrupt their children's education. Although attitudes towards the value of education appear to be changing, caregivers are still uncertain about its economic benefits. A teacher from SNNP said, "In making such decisions, parents often make cost-benefit analysis. They weigh the costs they are expected to incur whenever they send their children to school and the benefit they expect as a return." A school principal from Oromia further explained that some members from his community think it would take many years for education to have an impact and that children should therefore support their family's livelihood activities instead of going to school.

Additional burden on families from the COVID-19 pandemic and internal conflict affects their ability and willingness to send children to school

Many families were discouraged to re-enrol their children due to the psychological and economic burden imposed by the COVID-19 pandemic. However, there were contrasting opinions on the degree to which the pandemic affected dropout rates, even among respondents from the same region. For instance, a school principal in Oromia indicated many female students got married during school closures and thus dropped out, while another school principal from the same region said the pandemic did not influence dropouts at their school.

In addition, respondents from Tigray and Oromia also underscored security concerns and internal displacement stemming from internal and ethnic-based (inter-clan) conflict as barriers to enrolment and retention. A school principal from Tigray noted, "...internal displacement of citizens because of ethnic conflicts in Ethiopia is another reason for low enrolment of children in schools. Most internally displaced people are making their lives in temporary shelters. In such situations, sending children to school is considered as something luxurious for those families."

4.2.3 Supply-side barriers to school enrolment and retention

As with prior research,^{xlv} this study found evidence of supply-side deficits in both physical (e.g., school buildings, learning materials, separate latrines) and human (teacher) resources in all regions, though these problems seemed to be less pronounced in Addis Ababa. School shortages also mean that long distances for many children to travel to school serve as a disincentive to attendance.^{xlvi} Policy-level respondents as well as teachers in our study also agreed that efforts at provisions for children with special needs have proven inadequate.^{xlvii} These common supply-side barriers also surfaced in our study; however, we also found that a lack of school meals and a lack of curriculum that is directly relevant to the labour market were the primary supply-side barriers to enrolment and retention. Table 4.2.3 presents key findings on supply-side barriers to school enrolment and retention.

Table 4.2.3. Key findings on supply barriers to school enrolment and retention

No.	Evaluation Question	Indicator	Key Findings
3	What is the evidence on supply-side barriers?	<ul style="list-style-type: none"> Perceived barriers such as deficits in school infrastructure, human capacity, and other resources by education level Perceived barriers such as deficits in physical infrastructure, long distance to school, and safety issues by education level Provisions in place for children with special needs by education level 	<ul style="list-style-type: none"> Lack of potable water and school meals is a disincentive to attendance The curriculum’s perceived lack of relevance to labour market needs means parents and children do not see benefit Deficits in infrastructure – including water, separate latrines, and provisions for students with disabilities – make schools less child-friendly Supply-side barriers are especially pronounced for refugee and migrant students

Less incentive to attend when water and school meals are not provided

With economic concerns at the centre of demand-side barriers to enrolment and retention, provision of school meals was often not only an incentive to attend school, but the primary reason. Throughout interviews, respondents referenced poverty, hunger, and the need for labour as key issues for themselves. Thus, schools lacking meals, and sometimes potable water, was a major supply-side barrier to enrolment and retention.

Lack of school meals and potable water as a driver of OOSC seemed to be especially prevalent in Oromia region, though respondents from Somali, SNNP, and Tigray also mentioned the problem. A REB member in Oromia said, “Lack of school meals also causes the children to drop

out from their school, particularly when the families have to migrate from a place to another in search of new grazing land.” The respondent mentioned that although there have been programmes providing school meals in drought and famine-prone areas such as Bale, Guji, and Borena, the programmes are phasing out, which will likely cause dropout. A caregiver from Oromia also described the effect of lack of water on attendance: “The primary school [students] were not studying well because they worry much about what they have to eat and drink.”

Finally, a principal from SNNP pointed to hunger among migrants: “Migrants who come from Oromia region... may not eat breakfast and hence, they don’t like to stay in the school.”

Parents and children perceive that the curriculum lacks relevance to labour market needs

Relatedly, multiple respondents said that caretakers and their children perceive that school lacks utility for building skills that are relevant for the labour market in the country. A teacher from Addis Ababa said, “The first important thing parents consider when they send their children to school is how much the child will benefit them after completing school.” A national-level respondent also noted, “The opportunity cost of pursuing education in poverty-stricken households living a hand-to-mouth life is too high.”

In addition to the immediate need for labour to generate income for food, respondents said that prospects for a higher income from more schooling are low. A primary school director from SNNP said, “Students have no hope in their education, they are seeing a lot of jobless young people in the community [and] they assume their fate will be similar to these young people.” A principal from Oromia similarly expressed, “There is some perception that education can no longer be a means for an improved livelihood; they rather think that children should be engaged within the livelihood activities of their parents. Some reason that education would take many years to bring impact.”

In addition, caregivers from Addis and SNNP expressed concern about the general quality of the curriculum for learning. One caregiver from Addis perceived that lower secondary schools prioritized grade promotion over quality. A caregiver from SNNP expressed a similar sentiment, “Education at the nearest lower secondary school will not prepare students for the national entrance exam, which is given when they reach 12th grade; for instance, if 100 students took the exam, not more than 20 or 30 students are passing the exam and joining university.”

Basic infrastructure deficits disincentivize attendance

All types of respondents described supply-side infrastructure deficits that are common barriers to enrolment and retention. Specifically, caregivers from SNNP mentioned that classrooms were not renovated and lacked books, classroom materials, tables and chairs, and computers. A key informant in Oromia said, “The most prominent reasons [contributing to poor school

enrolment] are budget constraints to hire enough teachers, build schools and fulfil the required materials and teaching aids, install school facilities such electricity and water supply."

A principal from SNNP described how the deficits in facilities make schools less child-friendly, and thus less attractive for students:

"Classrooms have no cemented walls and floors and are only made of wood and mud that it is not comfortable place for students to enrol and stay in the schools. The main reasons related to lack of school materials and facilities that would probably increase enrolment rates are lack [of] chairs and desks; the library is poorly constructed and has very limited reference books. Moreover, there is no laboratory and the compound has no playing field. It is not attractive for students."

Having to walk long distances to schools was connected to the problem with hunger, as some families would continue to send their children to the school in their prior villages after migrating. Distance was especially a challenge for refugees and migrants; a member of the REB in Oromia estimated that about 70,000 children who never attended the school were registered in the district in 2013. Distance also becomes exacerbated for children when they reach secondary school; a teacher from Somali said that secondary schools mostly exist in towns, while rural areas are limited to primary schools. Finally, a member of the REB in Tigray said, "In the community level, lack of schools in one's surroundings can be taken as one driver of low enrolment. School distance hence is one of the major determining factors for low enrolment."

4.2.4 Political bottlenecks for policy and strategy implementation

Ethiopia has implemented standalone policies that support inclusion of students with disabilities,^{xlviii xlix} and includes provisions for students with disabilities in its Education Sector Development Plans (ESDP). The ESDPs include provisions that generally support inclusion of marginalized and other disadvantaged groups in education.^l Respondents emphasized that many supply-side issues stemmed from limited financing and corresponding difficulty coordinating among the national, regional, and local levels, particularly on budget allocation. This section elaborates the political bottlenecks that affect policy and strategy implementation.

Table 4.2.4. Key findings on political bottlenecks for policy and strategy implementation

No.	Evaluation Question	Indicator	Key Findings
4	What are the political bottlenecks that impede the successful implementation of policies and strategies?	<ul style="list-style-type: none"> Perceived lack of political commitment to inclusion Alignment of education policies to support strategies of inclusion Existence of restrictive administrative regulations that hinder school access 	<ul style="list-style-type: none"> Policies speak to inclusion, but lack sustainable follow-through Supply-side barriers stemmed from lack of finance

Well-developed policies lack sustainable follow-through and institutionalization

As discussed in various sections throughout this report, policies reflect a political commitment to inclusion (e.g., in the MoE’s ESDP-V Programme Action Plan), but national actors said the project-based and heavily donor-financed approach to solutions lacks both continuity and sustainability. An REB member from Addis Ababa said, “Overall there are more than 63 different projects with various actors, but projects are not sustainable and don’t have high level of commitment to address the problems.” Another key informant said priorities for education change from one administration to the next, making it difficult to develop and implement a long-term strategy for policy implementation. Much of the reason for the lack of sustainability has to do with low levels of coordination and capacity, especially at the local levels of government, where respondents described the lack of follow-through on issues from infrastructure to supports and training on working with students with disabilities. We discuss these challenges at the regional and local levels in the section on capacity bottlenecks.

Finance is the root of challenges to implementation

Though we discuss finance in depth in later sections, it is important to note that respondents identified lack of funding as a key political bottleneck, especially regarding allocation to the regional and local levels. A planning expert from SNNP explained,

“When we think of the challenges to addressing issues with student enrolment and dropout, budget deficit [is] the major constraint. For example, we may find students who might be absent or drop out because of food deficiency in their homes [...] If school feeding is introduced and school materials are offered, dropout might decrease. Yet the capacity of the government is very limited in addressing such problems in all areas.”

The local levels also have financial challenges, with principals and teachers also describing the effects that low budgets have on their ability to make local level change. A principal from Addis Ababa said, “The major problem we are facing is deficiency of school budgets. The budget

which is being allocated to our school every year is not sufficient enough to supply all the necessary educational materials, expansion of school facilities and infrastructures.”

4.2.5 Governance capacity bottlenecks to policy and strategy implementation

Despite acknowledging the Ethiopian government’s increase in the national education budget and its efforts to expand schools, the 2012 study on out-of-school children^{li} identified bottlenecks in coordination among the national, regional, and local levels, as well as between government and CSOs. Particularly, the local levels lack the capacity to carry out the expectations of decentralized governance. Our study also found that difficulty coordinating among the national, regional, and local levels of government was one of the primary capacity bottlenecks, as well as coordination across sectors on key issues such as water provision and school meals. This section presents the key findings on governance capacity bottlenecks.

Table 4.2.5. Key findings on governance capacity bottlenecks

No.	Evaluation Question	Indicator	Key Findings
5	What are the governance and capacity bottlenecks that impede the successful implementation of policies and strategies?	<ul style="list-style-type: none"> • Alignment between policy and strategy and departmental mandates • Perceived technical capacities to address the needs of excluded groups • Level of cross-sectoral collaboration • Integration of adequate monitoring mechanisms 	<ul style="list-style-type: none"> • Supply-side barriers stemmed from difficulty coordinating among the national, regional, and local levels • Cross-sectoral coordination could be strengthened • Absence of systemically integrated MIS mechanisms that go beyond programming

Low coordination among national, regional, and local levels of education

Regional and local government lack both funding and capacity to implement policy and strategy, especially related to the needs of excluded groups. Although REB respondents seemed aware of the policies and strategies that would improve education in their regions, perennial budget shortfalls inhibit their effectiveness. A respondent from the MoE said, “Most of the supply-side activities are carried out by regional governments. One can expect regional disparity on the supply-side activities based on the inherent strengths/ weaknesses of regions.” Though most funding comes from the national level, REBs also said they try to identify other avenues to fund their activities. A respondent from Oromia said, “The REB is working to mobilize resources from different sources than only relying on the government budget.”

Respondents also described lack of capacity for implementation at the local levels, and some said that engagement among actors at the local level seemed low. A primary school director from SNNP said, “There is loose contact and cooperation among the community, students and the school,” while primary school teachers in Oromia said, “the local government is still not responsive” to their suggestions to complete some basic facilities at the school.

Some cross-sectoral coordination, though not systemically

Though some respondents spoke of productive collaboration across sectors, especially in social protection (as discussed in a later section), most respondents indicated the collaboration could be strengthened, especially to enable a consistent approach to coordination. A representative from the MoE described limitations of the existing coordination: “Cross-sector collaboration usually lacks a formal chain of command and it is done based on the willingness and commitment of the sectors.” Similarly, an REB member from Addis Ababa said,

“There is no sustainable coordination and communication to mobilize resource and focus on specific issues. There is no organized system that can bridge NGOs and government gaps [such as] no guidance to make school feeding programmes more productive and evolving.”

An REB member from Oromia, who mentioned working with the health bureau and MOWYCA on beliefs about the benefits of education, said, “We do not have that strong collaboration with various stakeholders and programmes. Although the education sector has focal persons in various sectors, the chain has not been strong.”

Some respondents mentioned that collaboration has been successful in some areas, such as engaging with the health bureau “to overcome sanitation-related issues of particularly girls and very recently to deal with COVID issues” (REB member, Oromia), and with the local Office of Women, Children and Youth to “raise awareness through local government administration on gender disparities.” However, these collaborations seemed one-off rather than systemic.

Lack of monitoring mechanisms

Respondents connected the lack of appropriate monitoring mechanisms – both of activities and of student management, including a robust Management Information System (MIS) – to the challenges with finance and proper coordination for implementation. A respondent from UNICEF pointed to existing efforts to strengthen case management in education, specifically in relation to what already exists for child protection, “This approach for intersectoral programming is promising and we believe that it is one that will provide with dividends.”

A respondent from Oromia described the challenge with monitoring project activities while reiterating budgetary constraints: “At the regional office level there is a limitation of regular monitoring that further limits the supervision effort. All the challenges at the regional level are because of budgetary constraint and technical gaps in project/programme management.” Similarly, a respondent from the Ministry of Finance described the absence of systematic monitoring of social protection programmes: “For the PSNP in 2019/2020, the government allocated 4.2 billion ETB, and the donors allocated the same share, but the effectiveness of the programmes are not evaluated properly.” This lack of ongoing and appropriate monitoring mechanisms could mean that there are unknown gaps in project implementation.

4.2.6 Financial bottlenecks to policy and strategy implementation

As measured by national expenditure alone, the Ethiopian government places a high priority on education. Spending on education represented 24 per cent of the Ethiopian government’s public expenditure in 2016/2017, which exceeds the internationally agreed target of 20 per cent set out by the Education for All (EFA) coalition.^{lii} The sectors with the second highest share of public expenditure are health and road construction with 8.8 per cent of total expenditure each. According to the latest available figures, Ethiopia’s education spending as a share of GDP was 4.7 per cent, which was slightly higher than the sub-Saharan African average (4.6 per cent) and trailed only Kenya (5.3 per cent) in the region. According to a local education expert, the budget allocation for education is “encouraging” and demonstrates the national government’s commitment to expanding educational access to children across the country. Despite this relatively high level of public spending, the desk review and interview data indicated that key financing gaps and inefficiencies in resource allocation impede the implementation of policies, programmes, and strategies designed to improve enrolment and retention rates.

Table 4.2.6. Key findings on financial bottlenecks to policy and strategy implementation

No.	Evaluation Question	Indicator	Key Findings
6	What are the financial bottlenecks that impede the successful implementation of policies and strategies?	<ul style="list-style-type: none"> Observed funding gaps Alignment between allocation of resources and children’s needs Perceived efficiency of resource allocation 	<ul style="list-style-type: none"> Public expenditure on education as a share of total spending is relatively high at the national level. (Source: Desk review) Funding gaps inhibit infrastructure upgrades, school meals, construction, provision of school materials, and implementation of monitoring systems. (Source: Interview data) Only a small share of the education budget is available for capital investments. (Source: Desk review and interview data) National education budget supports tertiary education primarily. (Source: Desk review and interview data)

Financing gaps constrain key investments in infrastructure and services

The rolling five-year ESDPs I-V have continued to highlight financing gaps as one of the primary barriers in implementing programmes and policies designed to address low enrolment and dropout. A respondent from the Ministry of Finance shared that while education takes the biggest share of the country’s public expenditure, “the demand of educational institutions and budget supply gap is very high due to the limited financial capacity of the government.”

School principals in Hawassa, Addis Ababa, and Mekelle said persistent budget deficits are the primary constraints to attract and retain children. Specifically, these principals reported that funding gaps have inhibited schools and communities from making the following investments despite strong evidence that they measurably improve enrolment and retention rates:

1. Expansion and/or upgrades of existing infrastructure (e.g., lack of WASH facilities, classrooms, accessible facilities for children with disabilities);
2. Provision of school meals;
3. Construction of new schools particularly in rural/pastoral areas;
4. Provision of basic school materials such as textbooks and other educational supplies.

According to a respondent from the MoE, donor funding, which has generally been used to plug educational financing gaps, has decreased for the last three consecutive years.

Inefficient resource allocation leads to inequitable outcomes

According to the available literature, the nature of the Ethiopian government’s expenditure explained the disconnect between the relatively high levels of national spending and the

perceived lack of funding at the regional and local levels. Most federal expenditure is allocated to tertiary-level education, leaving little in the way of national support for investments at the primary and secondary level. Approximately half of the country's education budget is allocated to and managed by regional governments whose mandate covers primary and secondary education. This decentralized financing model exacerbates and perpetuates inequitable allocation of resources by placing the onus on local and regional governments to make the necessary long-term investments in primary and secondary education. Poorer regions that are in the greatest need of capital investment support have fewer means to do so.

In 2017/2018, 91 per cent of regional education spending went to recurrent expenditure, which supports teacher salary as well as some non-salary spending (e.g., textbooks, teacher training costs). One education specialist explained that this resource allocation strategy, which was designed to overcome the teacher shortages that resulted from the large enrolment of primary school students following the abolition of school fees in the 1990s, leaves only a small share of the educational budget (29 per cent at the national level, 9 per cent at the regional level) for investments such as school construction, infrastructure upgrades, and school materials. External sources or contributions by local communities have been unable to fill these gaps.^{liii}

The MoE's ESDP-V Programme Action Plan recognized this inequitable allocation and committed the government to providing additional support and resources for schools that serve disadvantaged communities (see below for more on fiscal space intended to reduce disparities in equitable access to learning opportunities). However, as Kefyalew et al. (2019) point out, limited institutional capacity for monitoring and evaluation, procurement, and internal audit inhibit the ability of regional and woreda education bureaus to utilize financial resources effectively and efficiently.^{liv}

4.3 The 'How': Policies and strategies to address exclusion

This section describes the enabling policy environment, including the policy and legal framework, budgetary and expenditure issues, and institutional management and coordination.

4.3.1 Education policies and strategies for addressing exclusion

Our review of the literature showed that very few studies have systematically evaluated effectiveness as it relates to improving enrolment and retention rates at the primary and secondary school levels, highlighting the need for rigorous evaluations and empirical studies to determine what policy levers and interventions can address OOSC in the Ethiopian context. We determined *perceived* effectiveness of and synergies between select policies, strategies, and programmes by analysing the documents included in the desk review as well as by probing key informants. Perceived effectiveness speaks to what education experts and officials believe have

been effective interventions in the effort to improve enrolment and retention. This sub-section describes some of the key policies and strategies to address OOSC.

Table 4.3.1 Key findings on education policies and strategies to address exclusion

No.	Evaluation Question	Indicator	Key Findings
1	What education policies and strategies exist to address the OOSC problem and how effective are they (including strategies targeted at pastoralists, internally displaced persons [IDPs] and the refugee population as well as alternative and basic education [ABE] strategies)?	<ul style="list-style-type: none"> • Existence and effectiveness of education policies targeted at OOSC and those at risk • Perceived effectiveness of education policies • Existence and strength of synergies between policies that address the OOSC problem 	<ul style="list-style-type: none"> • Existing policies, strategies, and programmes have generally been effective in improving enrolment and retention rates in the past 10–15 years. (Source: Desk review) • While the country’s fee-free policy boosted enrolment, it initially led to an undersupply of qualified teachers, eroding educational quality, which contributed to dropout. (Source: Desk review) • Implementation and scale-up of these policies and programmes are inhibited by funding gaps and capacity constraints. (Source: Interview data) • Cross-sectoral coordination mechanisms are needed to improve synergies between programmes that address OOSC. (Source: Interview data)

Table 12 summarizes the policies, strategies, and programmes in Ethiopia that have been designed and implemented to improve student enrolment and retention across the 5DE. The list, which is not exhaustive, was assembled as part of the desk review and interview data analysis. The policies, strategies, and programmes were selected for inclusion on this list based on how frequently key informants mentioned them during interviews. The interview data were also triangulated with the desk review to determine their perceived relevance to and influence on enrolment and retention at the primary and secondary school levels.

As we described in more detail below, these interventions were generally credited for having improved enrolment and retention rates over time. They were designed to respond to the main drivers of low enrolment and dropout, particularly for disadvantaged groups such as low-income households, pastoralist communities, and girls. While these drivers are recognized at the policy and programmatic levels, a lack of financing, technical capacity, and infrastructure hindered effective implementation and sustainability. Moreover, studies are needed to evaluate the effectiveness of these programmes in improving enrolment and retention rates.

Table 12. Summary of OOSC policies, strategies and programmes in Ethiopia

Policies	Description
Education and Training Policy (ETP)	The ETP (1994) established Ethiopia’s strategic direction for general education structure, curriculum, measurement, pedagogy, management, and finance. The ETP abolished school fees for students from Grade 1–10 to reduce the financial burden on families, which has been credited for stimulating a boost in enrolment throughout the country.
National Early Child Care and Education Policy Framework (NECCEPF)	The NECCEPF (2010) is the first comprehensive early childcare and education policy in the country’s history. The policy focuses on enhancing the quality, accessibility, and equitable distribution of services for children through more efficient partnerships and capacity building programmes.
Strategies	
Education Sector Development Programme (ESDP V)	The ESDP-V (2015) is the current iteration of Ethiopia’s medium-term plan, which serves as the central strategy document for educational development from 2015–2020. Policy priorities include improving teacher quality and reducing high dropout and repetition rates. Priority programmes focus on improving access at three levels: pre-primary, second cycle primary, and first cycle secondary.
Education Development Roadmap (2018–2030)	The roadmap (2018) proposes key recommendations and reforms to the education sector (e.g., financing, curriculum) to address root causes of low enrolment and dropout.
National Strategy for Non-formal Accelerated Child Readiness	The strategy, which aims to reduce dropout at the primary level, provides guidelines to implement two-month accelerated child readiness programmes so that pre-primary students who have not gone through the formal system can be better prepared for formal primary education.
National Alternative Basic Education (ABE) Strategy (2006)	The strategy (2006) guides the extension and transformation of existing ABE centres into regular schools and the establishment of new ABE centres, improving the enrolment of disadvantaged and previously underserved ethnic groups, especially in remote pastoralist areas.
National Pastoralist Education Strategy (NPES)	The NPES (2009) aims to provide a contextualised curriculum for pastoralist children and outlines offerings and services that meet the unique needs of pastoralist children such as ABE programmes, mobile and Koranic schools, and distance and open learning.
The Gender Strategy	The Gender Strategy in the Education and Training Sector (2014) sets national priorities to be addressed in the 2nd Growth and Transformation Plan (GTP) and ESDP V as well as the global sustainable development agendas of gender equality in education.
Programmes	

Policies	Description
General Education Quality Improvement Programme (GEQIP)	The GEQIP (2009) focused on education quality by supporting implementation of a revised curriculum, learning materials procurement, assessment strengthening, in- and pre-service teacher training, improvement of learning conditions, and EMIS management and strengthening.
School feeding programmes	NGOs and organizations such as World Food Programme, McGovern-Dole, Zoa, and International Fund for Africa among others implemented school feeding models throughout the country. Zoa's Home-Grown School Feeding (HGSF) programme delivers nutritious, locally sourced food to students. The government also instituted its national school feeding programme (2016–2020) in schools with low enrolment and food-insecure areas.
Multi-Year Resilience Programme (MYRP)	The MYRP focuses on strengthening the delivery of education for all displaced children, with an emphasis on girls and children with disabilities.
The Speed School Program	This accelerated learning programme enables primary level OOSC to reintegrate into government schools after 10 months of instruction.
Child-to-Child Programmes	Innovative community-based approaches to ECCE that aim to improve children's school readiness and reduce dropout at the primary level.
Accelerated School Readiness (ASR) Programme	The ASR is a 150-hour pre-literacy, pre-numeracy, and social skills programme aimed at six-year-olds who have not yet completed pre-primary education. The main objective of the programme is to lower dropout rates by fostering young students' physical, cognitive, social, and emotional development.

Fee-free education boosted enrolment but may have had unintended consequences – After the ETP went into effect in 1994, it took about two years for most primary and secondary schools across the country to abolish school fees. After working through implementation issues and delays, which caused gaps in funding at the woreda level, the fee waiver was fully implemented and enforced. Currently, no government school in Ethiopia charges fees for students in Grades 1–10, reducing the financial barrier for parents to send their children to school. The World Bank (2009) concluded that “by attracting and retaining students who may have dropped out for lack of cash, school fee abolition is believed to have influenced considerably the rather fast growth of enrolment in general education.”^{lv} From 2000–2005, the average annual growth of enrolment at the primary level was 12.7 per cent, and higher in disadvantaged areas (e.g., enrolment in Afar and Somali grew annually by 17.3 per cent and 22.4 per cent, respectively), suggesting that these areas benefited the most from the policy.

On the other hand, the fee-free policy initially had unintended consequences that were perceived to have had negative effects on dropout rates. For example, the rapid enrolment growth that occurred after school fees had been abolished led to high student-to-teacher ratios

and a shortage of qualified teachers throughout the country. A dearth of qualified teachers reduced the perceived quality of primary and secondary education, which was understood to be a contributing factor to higher dropout and repetition rates.^{lvi} However, that student-teacher ratios returned to more sustainable levels in the ensuing years, meaning that poor educational quality cannot be attributed alone to the fee-free policy.

Moreover, the associated increase in public expenditure to account for the school fee policy reduced the proportion of the overall budget dedicated to capital investment, in favour of recurrent costs (e.g., teacher salaries). As described above, the lack of financing available for upgrading existing infrastructure and school construction is a major constraint.

Early childhood care and education is a key area of investment, but has not scaled nationally

The NECCEPF, signed in 2010 by the MoE, MoH, and MOWCYA, provided the policy framework that guides the roll-out of Early Childhood Care and Education (ECCE) programmes and initiatives such as the O-class, Child-to-Child, and Accelerated Learning Readiness programmes. Collectively, these policies and initiatives have been credited for increasing pre-primary school enrolment rates from 5.3 per cent in 2011 to 39 per cent in 2016.^{lvii} While results were promising, many ECCE programmes are in pilot stages and have not been scaled at the regional or national levels. Efforts to scale and integrate these programmes into the national strategic framework are hampered by a lack of cross-sectoral mechanisms for oversight, monitoring, and coordination.^{lviii} Further, UNICEF pointed to policy gaps “in relation to responsive caregiving and security and safety dimensions” of ECCE.^{lix} Access to various ECCE modalities also varies by region, which has implications for students’ preparedness for Grade 1. For example, children from wealthier households in predominantly urban areas have better access to three years of kindergarten and are generally better prepared to enter primary school than are children from poorer areas who only have access to one year of O-class or Child-to-Child instruction.^{lx}

Education Sector Development Programmes I–V set key targets and help coordinate interventions

– The five ESDPs translate the country’s strategic priorities into an action programme with measurable outcomes at all levels of education. Each iteration of the ESDP has focused on improving enrolment and retention at the primary and secondary level. Beyond outlining strategy, ESDPs also set enrolment targets. For example, the target set for ESDP I was to raise enrolment from 3.7 million to 7 million, a mark that was surpassed when enrolment reached 8.1 million in 2001. Likewise, enrolment targets set by each subsequent ESDP were surpassed.^{lxi} The action programmes outlined in the ESDPs have generally been credited for expanding access to educational opportunities and improving education system quality overall.

School feeding programmes are perceived to be effective in boosting enrolment and retention but have difficulty with scale and sustainability – Educational experts and officials

perceived school feeding programmes were effective to increase enrolment and retention. A planning expert in Hawassa said school feeding programmes implemented by the government and the WFP in selected woredas across the SNNP “helped in maximizing enrolment rates and minimizing dropout rates” in participating schools. However, school feeding programmes have not been scaled up across all regions or the country. Experts also considered the sustainability of some school feeding programmes tenuous because they rely heavily on donor funding, which has been decreasing in the past few years.

Education in pastoralist areas benefits from flexible approaches but struggles with quality

Education experts perceived Alternative Basic Education (ABE) approaches favourably in their ability to improve access to education for pastoralist communities. One educational official with UNICEF shared that ABE implementation is strongest in Somali and Oromia, which both have large pastoralist communities that are either semi-permanent or always on the move. According to this official, ABE’s flexible design and approach was well suited to adapt to the lifestyles and needs of pastoralist communities. While ABE programmes show promise, they tend to struggle with low teaching quality and integration with the formal school system.^{lxii}

Girls’ education programming is perceived to be effective in addressing barriers for girls

Several gender-based policies, programmes, and structures have been developed to address the challenges that girl students face in enrolling and remaining in school. Specialized gender units and/or focal points have been established in REBs across the country as well as several woreda-level education offices. Other coordination mechanisms include the National Gender Forum, which convenes national partners that work on advancing girls’ education.^{lxiii}

4.3.2 Fiscal resources to reduce disparities in equitable access to schooling

Table 4.3.2 Key findings on fiscal space to reduce disparities in equitable access to learning

No.	Evaluation Question	Indicator	Key Findings
2	Is there any fiscal space that is intended to reduce disparities in equitable access to learning opportunities?	<ul style="list-style-type: none"> Availability and quantity of resources to reduce disparities in equitable access to schooling 	<ul style="list-style-type: none"> Existing policy and strategies recognize the importance of equity-based budgeting. Inequalities in per-capita expenditure on education among regions persist. National expenditure supports tertiary education, which subsidizes wealthier families.

Policy and strategy documents, such as the ESDPs I–V and the GEQIP-E, recognize the need for equity-based budgeting for education. For example, one of the six priority programmes for the

ESDP V is to improve the “equitable provision of funding with special consideration for the disadvantaged areas, which local schools have access to, will assist in devolving responsibility to local communities for delivering education.”^{lxiv} The GEQIP-E also tied conditional grant financing to disbursement linked indicators (DLIs) that improve equitable access to general education^{lxv} (See Table 13, Results Area 2).

Table 13. GEQIP-E conditional financing

Results Area	DLI Number	DLI	Financing allocated to DLI (IDA + DP) in US\$, million
RA 1: Improved Internal Efficiency	1	Quality Enhancement and Assurance Program (“QEAP”) for O-Class	60
	2	Performance-based Awards to school on a timely basis to improve internal efficiency	50
RA 2: Improved Equitable Access	3	Improved girls-to-boys ratio in Grade 8 in Afar, Ethiopia Somali and Benishangul-Gumuz Regions	50
	4	Improved availability of Basic School Grants (“Basic SG”) and Additional School Grants (“Additional SG”) in emerging regions	65
RA 3: Improved Quality	5	Improved teachers’ instructional activities	105
	6	Timely availability of textbooks	70
RA 4: System Strengthening for planning, policy formulation and reform	7	Improved availability, quality and use of data	20
	8	Improved pre-service teacher training for English and Mathematics Grades 5-8	10
Total			430

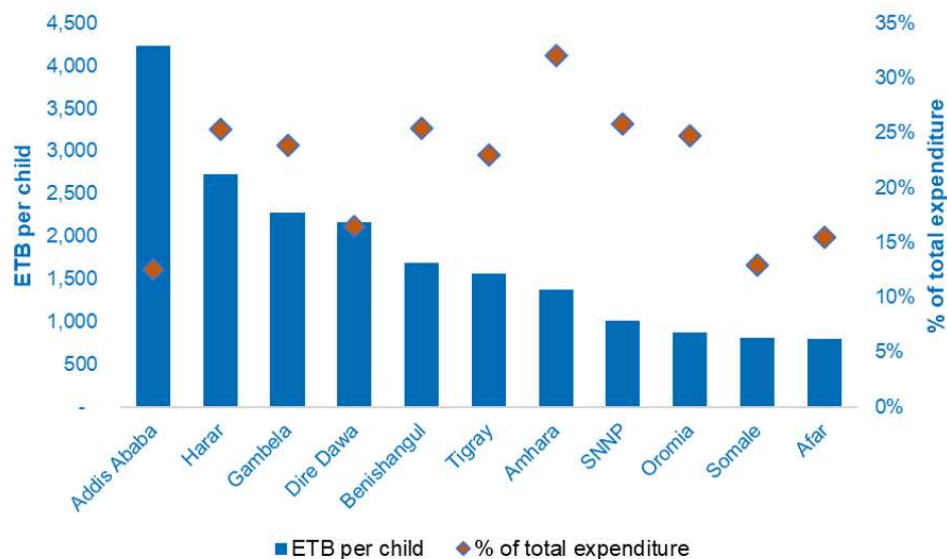
Source: World Bank, 2017.

The GEQIP-E gave special focus to “interventions for girl children, children from pastoral areas, and children with special needs” and called for dedicated funding from the government to support disadvantaged groups. A respondent from the MoE estimated that about 3 per cent of the education budget was earmarked for girls’ education and special needs education, 5 per cent for pastoralist education, and 1 per cent for vulnerable children. The respondent pointed out, however, that the allotted budget is “not sufficient to reduce educational inequalities.”

Despite the government’s recognition of the need to create fiscal space to reduce disparities in education, inequalities in per-capita expenditure on education among regions persist, with urban areas spending more per capita than emerging regions. In 2018/2019, Addis Ababa spent ETB 4,239 on a per-child basis, compared to just ETB 802 in Afar.^{lxvi} While wealthier urban areas such as Addis Ababa spent more for education per capita, they spent a smaller percentage of

their budgets on education. In predominantly rural areas such as Amhara, SNNP, and Oromia, the reverse was true. See Figure 9 for a regional breakdown of education expenditure.

Figure 9. Expenditure in education per region in birr per child and in percentage of total expenditure (2018/19)



Source: UNICEF (2021).

Moreover, an analysis conducted by Teferra and colleagues^{lxvii} concluded that national education spending patterns produce inequitable outcomes. As described above, half of national spending on education is administered and managed at the regional level. National level education expenditure focuses on tertiary education. For example, between 2009 and 2012, the MoE increased capital investments to support the expansion of universities. Teferra and colleagues found that public recurrent expenditure per student at the primary, secondary, and higher education levels were ETB 557, ETB 1,398, and ETB 14,493, respectively. Since tertiary education in Ethiopia is almost exclusively accessed by wealthier households, national education spending benefits wealthier households more than poorer ones.

4.3.3 Key social protection programmes in Ethiopia

Ethiopia’s social protection sector is governed by the National Social Protection Policy (NSSP, 2014) and accompanying National Social Protection Strategy (2016). The NSPP identifies five focus areas: (1) productive safety nets; (2) employment opportunities and livelihoods; (3) social insurance; (4) equitable access to health, education, and other social services; and (5) legal protection and support services for citizens exposed to abuse, exploitation, and violence.^{lxviii}

Table 4.3.3 summarizes our key findings on social protection financing from our desk review and a discussion with a representative of the Ministry of Labour and Social Affairs.

Table 4.3.3. Key findings on financing of social protection in Ethiopia

No.	Evaluation Question	Indicator	Key Findings
3	What are the key social protection programmes in Ethiopia? How are they financed? How have they evolved over time?	<ul style="list-style-type: none"> List of key social protection programmes in Ethiopia Expansion of these programmes over time in terms of resources and beneficiary population(s) 	<ul style="list-style-type: none"> Social protection in Ethiopia is largely financed by donors PSNP accounts for the sector's largest spending The Government of Ethiopia is identifying domestic, sustainable sources of financing for social protection

Ethiopia's social protection sector relies heavily on donor funding to operate and finance various schemes and programmes. In 2015/16, 60 per cent of social protection spending was financed by donors, 20 per cent by the federal government, and the rest by regional governments and contributory schemes.^{lxix} Table 14 shows a high-level breakdown of social protection financing from 2009 to 2013.

Table 14. Sources of financing for social protection in Ethiopia

Contributors	2009	2010	2011	2012	2013	Share in %
Donor	751,031,897	1,050,047,862	728,287,092	758,361,796	639,325,291	58%
Government	415,754,784	292,814,042	415,644,712	585,096,970	661,608,006	35%
Contributory schemes	91,088,022	93,606,813	103,498,311	106,066,630	108,288,758	7%
Total spending	1,257,874,703	1,436,468,717	1,247,430,115	1,449,525,396	1,409,222,054	100%

Source: World Bank, 2016.^{lxx}

The flagship PSNP, which includes the Rural Productive Safety Programme (RPSNP) and Urban Productive Safety Net Project (UPSNP), is the government's largest social protection programme. Other major social protection programming includes humanitarian relief; Community-based Health Insurance (CBHI) scheme; Public Servants' Social Security Agency (PSSSA) and Private Organisations Employees Social Security Agency (POESSA) pension

schemes; and social welfare. The PSNP together with humanitarian assistance represented 71.4 per cent of total social protection sector spending between 2012/13 and 2015/16.^{lxxi}

4.3.4 Impacts of social protection programmes on out-of-school children

Although social protection programmes are not systematically monitored and evaluated, studies on different aspects of the PSNP in particular have showed positive effects, if not directly on the education sector, in areas that affect participation in education. We also found perceived success of social protection programmes, particularly the PSNP and school feeding (discussed in education section), among interview respondents. This section describes actual and perceived impacts of social protection programmes, with a focus on the PSNP, on OOSC.

Table 4.3.4. Key findings on social protection programmes on out-of-school children

No.	Evaluation Question	Indicator	Key Findings
4	What are the demonstrated and perceived impacts of social protection programmes on OOSC in relation to each of the 5DE?	<ul style="list-style-type: none"> Impact of social protection programmes on OOSC in relation to each of the 5DE Perceived impact of social protection programmes on OOSC in relation to each of the 5DE 	<ul style="list-style-type: none"> A review of PNSP impact evaluations show impacts of social protection programmes on OOSC Respondents noted positive views of, school feeding programmes

Perceived success of social protection programmes

Pro-poor social protection programmes have expanded nationally in recent years and helped reduce poverty levels and increase access to basic services. In recent years, financing has grown as a proportion of government’s budget and in relation to GDP.^{lxxii} However, our review of the literature revealed that reliance on donor funding coupled with declining donor funding for the sector in recent years means the Government needs to mobilize alternative, domestic sources for greater sustainability.

According to a report by UNICEF and the Ministry of Finance (MoF), the sector would benefit from further structure, including “more-clearly defined and effective institutional arrangements, budgetary tracking and targeting mechanisms.”^{lxxiii} A respondent from the MoLSA further confirmed existing challenges with the country’s social protection programmes:

“[Major challenges] are limited capacity to coordinate and implement social protection programmes; poor intergovernmental coordination among MoCUD, MoFEC, MoE, MoH, and MoLSA at all levels in planning, implementing, monitoring and coordinating social protection; poor transparency and accountability in financial management, and huge gaps between the plan and the number of people who need social protection.”

Observed positive impacts of PSNP from prior evaluations

Prior studies showed a positive impact of PSNP on outcomes such as food security and investments in agriculture, children’s nutrition, school attendance and learning outcomes. Our research implies that positive impacts in these areas have the potential to increase school enrolment and retention. Table 15 summarizes key results from impact evaluations on PSNP.

Table 15. Snapshot of education-related results from PSNP impact evaluations

No	Author and year	Overall result
1	Gilligan et al., 2009	Positive impact of PSNP and household asset building programme on food security and various economic outcomes
2	Hoddinott, Gilligan & Taffesse, 2009	PSNP reduced reliance on child labour, though showed no impact on school attendance
3	Berhane et al. 2014	PSNP improves food security and increases livestock holding
4	Debela, Shively, & Holden, 2015	Positive short-term nutritional benefits for children
5	Woldehanna, 2010	Public works programme improves child outcomes related to education (study time, child labour, grade attainment)
6	Filipsk et al., 2017	PSNP has positive impacts on yields and incomes beyond the cash recipients alone

Source: Filipsk et al., 2017^{lxxiv}

4.3.5 Cross-sectoral approach of social protection policy and role of education sector

The ESDP V formalized the link between education and social protection services. It outlines the importance of school feeding programmes in food-insecure areas and scholarship support, as well as the opening and expansion of boarding and para-boarding schools in pastoral and semi-pastoral areas.^{lxxv} As with coordination among the various levels of governance, literature^{lxxvi} indicated that coordination between the social protection and education sectors lacks clearly defined responsibilities, especially at the woreda level. Respondents in this study expressed wide recognition of the need for better cross-sectoral coordination. This section describes findings on the cross-sectoral approach between social protection and education sections.

Table 4.3.5. Key findings on cross-sectoral approach of social protection policy

No.	Evaluation Question	Indicator	Key Findings
5	To what extent does social protection policy and its implementation	<ul style="list-style-type: none"> Existence and strength of cross-sectoral collaboration in the 	<ul style="list-style-type: none"> Cross-sectoral coordination seems to be strongest between education

No.	Evaluation Question	Indicator	Key Findings
	adopt a cross-sectoral approach, and what role does the education sector play?	definition and implementation of social protection policy	and social protection, particularly given the ESDP V and PSNP <ul style="list-style-type: none"> As with other areas of coordination, local levels require strengthening of general capacity and monitoring

As discussed in the prior section on cross-sectoral collaboration, respondents perceived that support for education from the social protection sector was highest of all sectors. A respondent from UNICEF described collaboration between education and social protection,

“You need a holistic perspective to solve the OOSC phenomenon; [you need] a need multisectoral approach to be successful. Current efforts with the Child Protection Section adapted a model from Jordan, where there is a strong linkage between education (specifically the ABE) and child protection. To have an enabling environment for access and retention, they are working closely with Child Protection agencies.”

An REB member from Somali reiterated the strength of collaboration, “We do have good cross-sector collaboration on the issue of OOSC, mainly with UNICEF; UNICEF gives a lot of training regarding social protection and prevention of dropout [from] school in our region.” In addition, respondents mentioned planned coordination between the sectors on MIS strengthening.

4.3.6 School WASH and school health strategies and child protection programmes relevant to education sector

Table 4.3.6 Key findings on WASH and school health strategies and child protection programmes relevant to education sector

No.	Evaluation Question	Indicator	Key Findings
6	What are the existing policies and strategies related to school WASH, school health and nutrition, and child protection programmes that have relevance to education service delivery for OOSC?	<ul style="list-style-type: none"> List of key school WASH and school health strategies relevant to education service delivery List of key child protection programmes relevant to education service delivery 	<ul style="list-style-type: none"> Policies and strategies in related social sectors were seen as key interventions that can address the multifaceted causes of low enrolment and dropout.

Our findings suggested that the causes and drivers of low enrolment and retention have roots in social sectors outside of education such as WASH, health and nutrition, and child protection. Thus, the policies and programmes in these sectors have direct relevance to improving

enrolment and retention. Table 16, which is a non-exhaustive summary of key policies and programmes, was assembled as part of the desk review and interview data analysis.

Table 16. WASH, health and nutrition, and child protection programmes for OOSC

Program	Description
WASH	
One WASH Strategy	Implemented by the MoE starting in 2015, the One WASH strategy is designed to deliver adequate supply of water and sanitation facilities.
School WASH programmes	NGOs and international organizations including World Vision, Save the Children, UNICEF, WHO and USAID among others are working with government entities to upgrade and build WASH facilities in primary and secondary schools throughout the country.
Health and Nutrition	
National School Health and Nutrition Strategy	This strategy guides activities to improve access to better health and nutrition services for children in schools.
National Nutrition Programme II	The second National Nutrition Programme (2016–2020) is the current five-year roadmap for nutrition improvement in the country.
School feeding programmes	See previous section.
Child Protection	
National Children’s Policy	Ethiopia adopted the National Children’s Policy in 2017, emphasizing children’s development and growth; protection from socio-economic and political hardships; and rehabilitation, care, and support for children in difficult circumstances. The policy focuses on preventing child labour and other harmful practices that drive out-of-school rates.
National Refugee Child Protection Strategy	The strategy aims to provide support and services for children in refugee settings, with a focus on lowering the high OOS rate (49 percent) for primary and secondary level refugee students.

4.3.7 Effectiveness of WASH and health and nutrition facilities

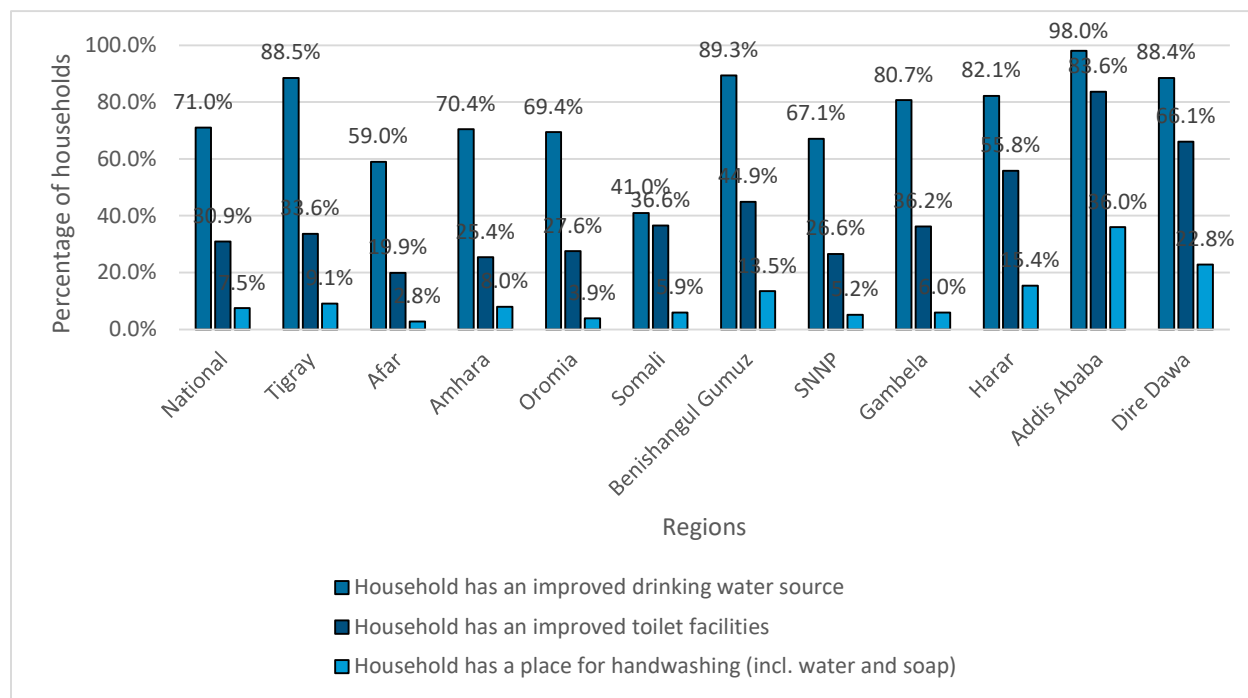
The Young Lives school survey 2016–17^{lxxvii} showed variation in the availability of water and sanitation facilities among the sample of 63 schools. Improved toilet facilities were available in almost all schools, and most schools had separate facilities for boys and girls. Improved drinking water was available at 60 per cent of schools, but only 56 per cent had water available at the time of the survey. Having dedicated handwashing places with soap was even less common, at 29 per cent. Most schools did not have a private washroom for girls.

Table 4.3.7 Key findings on WASH and health and nutrition facilities

No.	Evaluation Question	Indicator	Key Findings
7	To what extent are school WASH and school health and nutrition facilities, as well as child protection services, being effectively utilized and provided at the school level?	<ul style="list-style-type: none"> Percentage of children living in communities with health facility; improved water facilities Perceived impacts of school WASH, health and nutrition facilities and child protection services 	<ul style="list-style-type: none"> Availability of drinking water sources and a dedicated place for handwashing with water and soap are often missing from children’s households. A lack of cross-sectoral collaboration and coordination limits the effectiveness of these programmes in addressing challenges for OOSC Improved toilet facilities are available to 71 per cent of the households.

Household-level data indicate the general availability of sanitation infrastructure. Sanitation facilities function for the majority (71 per cent) of households. The lowest proportion of improved sanitation is in Somali (41 per cent) and the highest in Addis Ababa (98 per cent). Less than a third of households had an improved drinking water source, while less than one in ten had a place for handwashing. Households in Somali, Afar and Amhara were least likely to have improved WASH facilities. Figure 10 shows the availability of WASH facilities in households.

Figure 10. Availability of WASH facilities at the household level



As summarized in Table 16 above, the intersections between education and these various social sectors are evident. For example, REB officials and school principals in SNNP, Tigray, and Oromia shared that they had collaborated effectively with WASH sector partners in the government and NGOs to build or upgrade water and sanitation facilities in schools across their respective regions. While these were some effective examples of synergies, most respondents shared that cross-sectoral collaborations were generally limited and ineffective. Similar to the problems in the social protection sector described earlier, respondents pointed to a lack of adequate coordination and management mechanisms, funding, and communication as the main bottlenecks to these interventions’ effectiveness. In the context of addressing enrolment and dropout, respondents described their collaboration with actors in other sectors as siloed, ad hoc, and at times, unorganized. One education expert shared that without an integrated strategic framework to guide cross-sectoral collaboration, initiatives were not aligned with broader policy and programmatic strategies such as those outlined by the ESDP-V.

One child protection expert highlighted the example of an integrated case management (ICM) system as a potential mechanism to coordinate interventions meant to support primary and secondary students throughout the country. An ICM system would help bridge the gaps between Ethiopia’s social protection and education sectors in a way that could tailor and target interventions for OOSC more effectively and efficiently. According to this expert, an ICM system is in place, but it has not yet been systematically linked with the formal education sector. The

government's support is needed to integrate this system across sectors and down to the regional, woreda, and school levels to expand ICM nationally.

4.4 Costed strategies

We used our findings to develop a series of strategies to address the challenge of enrolment and retention that are linked to the theory of change. Our data indicated that enrolment is less of an issue than retention, and that when children are enrolled it does not necessarily mean that they attend school. Thus, our strategies focus on Dimensions 4 and 5 of the 5DE. We considered whether and how to build on the strategies from the Ethiopia Education Development Roadmap (2018) as well as the ICRA Management Consulting Services Limited (IMaCS) (2015) report for UNICEF Ethiopia,^{lxxviii} to the extent that challenges and priorities have remained the same. We also used AIR's Human-Centred Design Study of the Root Causes of School Enrolment and Dropout in Tanzania report,^{lxxix} which developed similar strategies for OOSC in Tanzania, **which developed similar strategies for OOSC in Tanzania**, as a model for our approach.

Our strategies align with the priorities outlined in the Education Sector Development Programme V (ESDP V)^{lxxx} and the new Ethiopia Education Development Roadmap (2018). Thus, we aimed to design the strategies to build on existing activities for each of these efforts. In addition, we aimed to design strategies that would inherently address key needs of boys and girls through ongoing assessment of the evolving challenges.^{lxxxi}

We made several assumptions that affect the success of these strategies. First, a major finding of this research was the need for institutionalized cross-sectoral coordination that, instead of being project-based, is a regular approach to yearly planning. Thus, the strategies we recommend are not programme based, but rather assume a more permanent approach that is embedded in policy and relies on regular funding. Second, financing is a major challenge to the sector. We propose some strategies for financing, including funding from other sectors, but in general, these approaches would require a reprioritization of the national budget away from tertiary education, which affects the smallest number of Ethiopians, and towards pre-primary, primary, and secondary education, to equitably distribute funds to the largest number of children. Thirdly, the unit prices used for the cost estimation are based on existing strategy proposals updated by inflation. The COVID-19 pandemic has caused high inflation rates, which may overestimate the funding needed once the situation stabilizes. In addition, we recommend revisiting the unit prices by region to account for any recent changes in supply of the national and local markets. Lastly, these strategies serve as a starting point for discussions with UNICEF and other stakeholders about the best approaches to strategy implementation and funding.

The costs for each of the strategies are estimated based on available data and assumptions of which activities may be required for implementation. Because strategy implementation would require locally led coordination and knowledge, we look forward to refining these strategies in consultation with UNICEF and stakeholders as part of the validation workshop. We recommend that we use the validation workshop to do the following:

1. Select the strategies that are most likely to move forward
2. Further identify existing efforts to coordinate, build, and avoid duplication
3. Refine the strategies' design and costs
4. Begin development of an implementation and testing plan that will increase the likelihood of adoption of the most relevant strategies
5. Discuss where there might be overlap between the strategies that may yield cost savings (e.g., expanding secondary schools may overlap with the employment-focused curriculum secondary school track)

These strategies serve as our recommendations from the evaluation. For each of the six strategies, we provide the rationale for the strategy, a brief description, and relevant background information or examples.

Table 14 provides a summary of the draft recommended strategies.

Table 14. Overview of costed strategies

N	Critical barrier	Child profiles	Existing policies	Policy effectiveness	Recommendations, or “Strategies”	Estimated costs (scopes vary)
1	Lack of readiness for formal school	Dropouts in Grade 1	National Early Child Care and Education Policy Framework (NECCEPF); ESDP V commitments and targets for ECCE	Roll-out of ECCE programmes are ongoing, but the government has fallen well short of its 80 per cent GER target for pre-primary education by 2020. According to the Luminos Fund (2021), GER for pre-primary education reached only 45 per cent nationally in 2019–2020.	Expand pre-primary education in targeted regions with the lowest enrolment rates (20% GER target) in two regions (Afar and Somali)	ETB 11,725,444,650 (capital investment) ETB 219,150,780 (recurrent annual)
2	Dropout in primary to secondary transition	Secondary school-aged children; adolescent girls; rural areas	ESDP V commitment to access and quality in secondary education	Limited effectiveness so far. Lack of schools nearby is still mentioned as major reason for drop-out especially in rural areas.	Establish secondary schools	ETB 16,533,063,140
3	Lack of money for food	Primary and pre-school children; emergency situations; regions with high food insecurity	Regional WFP school feeding programmes; Home Grown School Feeding Program; emergency school feeding	High perceived effectiveness, but concerns on scalability and sustainability	Universal school feeding	ETB 37,365,739,858 (priority regions) ETB 51,755,615,531 (all regions)
4	Lack of labour for income generation	Economically disadvantaged secondary school students, all regions	1994 Education and Training Policy (ETP); TVET Strategy Plan (2008)	Increased access to TVET since 200; however, TVET lacks quality and relevance by region in terms of relevant personnel and contextualized strategy	Link curriculum to income generation by region	ETB 2,965,517 (1 region survey) ETB 3,100,960 (1 curriculum)
5	Cross-sector collaboration	All children	Existing EMIS	Concerns about quality and availability of indicators	Cross-sector MIS	ETB 249,340,000 (Oromia region)
6	Infrastructure	Primary students in rural and drought-affected areas	One WaSH National Programme (OW5,NP)	High perceived effectiveness, but capacity gaps are the main challenge for effective implementation	Provide improved and functional drinking water facilities at schools	ETB 2,027,739,550



Strategy #1: Expand Formal Pre-Primary Education

Rationale: The latest available data shows that students in Grade 1 have the second highest chance of dropping out among the primary and secondary levels.

One of the key causes of dropout in Grade 1 is that students who have not had access to formal schooling to this point (i.e., kindergarten) are not prepared for primary education when they enter. Gaps in knowledge continue to widen as students progress through formal schooling; those who are never able to build the foundational knowledge needed to succeed at subsequent grade levels become discouraged and eventually drop out. There is strong evidence that demonstrates how investments into pre-primary education pay dividends over the course of a child's lifetime of learning. Pre-primary education is designed to support children's physical, cognitive, social, and emotional development, which prepares them to transition into and flourish in formal schooling, mitigating one of the key drivers of dropout.

As described earlier, the MoE, Ministry of Health, and the Ministry of Women, Children, and Youth Affairs endorsed and signed the NECCEPF in 2010, which provides a coherent framework for the nationwide roll-out of ECCE programmes. The ESDP-V set an ambitious target of 80 per cent national GER target for pre-primary education by 2020. While pre-primary enrolment rates have climbed slowly since these frameworks and targets were established, the government has fallen well short of their targets. The Luminos Fund estimated that nearly 63 per cent of 4–6-year-old children nationally, or 6 million children, are not accessing pre-primary education.^{lxxxii} Disaggregation at the regional level shows that the lowest rate of pre-primary enrolment are in Afar (15 per cent) and Somali (6 per cent), two predominantly pastoralist areas.^{lxxxiii}

Moreover, the type of pre-primary education available varies by region. Wealthier households in urban areas like Addis Ababa have better access to three years of formal kindergarten, while children from poorer areas only have access to one-year O-classes or accelerated school readiness (ASR) programmes (MoE, 2015). Thus, while promising pre-primary educational programmes and models such as ASR and Child-to-Child Learning should be expanded, resources should first be dedicated to expanding formal pre-primary schools and classrooms.

Description: The proposed strategy aims to expand access to pre-primary education by constructing additional classrooms and sanitation facilities in existing primary schools. Expansion will first target Afar and Somali, which have two of the lowest pre-primary enrolment rates in the country. This strategy projects costs for the infrastructure (i.e., classrooms, WASH facilities) and labour (i.e., teacher and teacher assistant salaries) required to expand pre-primary education in these two regions. It is important to note, however, that the strategy does not address educational quality, which is a critical component of actualizing the potential

benefits of pre-primary offerings. In other words, infrastructure and labour (which this strategy does address) are necessary yet insufficient conditions of expanding high-quality pre-primary education to OOSC. Subsequent efforts should focus on improving the quality of pre-primary education such as through teacher certification programmes and in-service training.

Background and relevant examples: There are promising examples of expanding pre-primary education throughout Sub-Saharan Africa. Kenya is considered a continental leader in this space in their efforts to create a national pre-school system, including curriculum, materials, and teacher training.¹¹ Zimbabwe, another regional leader and innovator in the pre-primary education space, worked with international agencies and NGOs to expand physical infrastructure into both rural as well as urban areas. In 2004, Zimbabwe mandated that primary schools offer two years of pre-primary education before Grade 1.¹² In Ethiopia, a strategic operational plan and guidelines for ECCE was established as part of ESDP IV, which outlines the different modalities that the country is committed to offer including kindergarten, O-classes, Child-to-Child and ASR programmes. ECCE teacher training curriculums were also developed and linked to students' educational curriculum.

Draft estimated costs: The available data indicates that Ethiopia is far short of the 80 per cent pre-primary GER target set by the ESDP-V. Using this 80 per cent target as a benchmark, Afar would need to increase enrolment by 65 per cent and Somali would need to increase by 74 per cent. Adjusting for inflation, the estimated cost of building the additional classrooms and sanitation facilities needed to reach the 80 per cent target is exorbitantly high – more than ETB 8 billion for Afar and ETB 38 billion for Somali (See Annex C—Table C1a). Since these figures are not feasible given the current fiscal constraints, a scaled-down target of 20 per cent GER would cost approximately ETB 2.6 billion for Afar and ETB 9 billion for Somali (see Annex C—Table C1b). The scaled down figures would be consistent with a phased implementation approach, which is an appropriate and recommended strategy.

It should be noted that the draft estimated costs assume that building additional classrooms are the *only* way to absorb the increase of enrolled pre-primary students in these regions. In practice, costs can be saved by more efficiently utilising existing infrastructure to absorb a percentage of students. Further, officials and practitioners may consider more flexible approaches such as building school nests and movable latrines. One of the challenges of predominantly pastoralist areas is that people are highly mobile. Building alternative structures

¹¹ <https://bernardvanleer.org/cases/building-africas-first-national-pre-school-system-in-kenya/>

¹² Government of Zimbabwe, Policy 14 of 2004

to classrooms may not only be more cost-effective, they are likely to be better suited to the needs of mobile communities.

In addition to infrastructure costs, teachers and teaching assistants would need to be hired to deliver the pre-primary educational curricula. Using a target of 80 per cent GER, we estimate the salary cost for the required number of teachers and teaching assistants to be approximately ETB 159 million in Afar and ETB 713 million in Somali. Using a target of 20 per cent GER, the total salary cost in Afar would be approximately ETB 49 million and ETB 170 million in Somali (see Annex C—Tables C1c and C1d). While this costing scenario assumes that enough labour will be available to meet the necessary threshold, a shortage in qualified labour in these regions is likely. The scenario does not include the cost of training and recruiting additional teachers.

Combining the projected capital investment and labour costs, we estimate the total cost to expand pre-primary education to be ETB 2,674,309,365 (\$59,491,884) in Afar and ETB 9,270,286,065 (\$206,224,002) in Somali to reach **20 per cent pre-primary GER** in each region.



Strategy #2: Establish Secondary Schools

Rationale: Limited access to secondary school has been an important reason for children, and especially girls, to drop out of school. Regardless of the availability of reliable and low-cost options for transportation the distance to lower secondary school matters for concerns about safety, time and energy and possibly extra costs.^{lxxxiv} The costs constitute transportation costs, but possibly also costs for boarding if schools are too far to travel daily. The time factor is relevant especially for older children as they are expected to contribute to domestic or economic work. Our analysis found that secondary school-aged children drop out because of lack of schools or teachers, but also because of lack of time, which will be affected by the time it takes to get to school and back. Caregivers and key informants in our study indicated (1) socio-cultural reasons, such as safety against violence in school and on the way to school; (2) economic reasons, such as transportation costs and opportunity costs for engaging in labour; but also (3) supply-side driven factors such as lack of potable water or school meals, limited school infrastructure in terms of washing and sanitation facilities for dropout, which all relate to the limited and inequitable access to secondary schools.

Background and relevant examples: The ESDP V aimed to reduce the distance to school for primary school-aged children, mostly by constructing additional schools and establishing ABE centres. Decreasing the distance had as objective to increase the access and equity in primary education. Access to secondary schools was also limited. While some progress was made by adding new schools, the discrepancy between primary and secondary school availability was large with a near 10:1 ratio^{lxxxv}. Besides at the secondary school level there is a large disparity

between urban and rural areas. The recommendation in the Education Development Roadmap was to expand access and universalize secondary education by 2030^{lxxxvi}.

Description: For the construction of additional secondary schools, we propose to follow the national guidelines set out by the Ministry of Education on the minimum requirements of classrooms, available teaching and support staff, and additional infrastructure such as a library, ICT room, and toilets for students and staff (See Annex C – Table C2a). In addition, we suggest with the construction of new schools to incorporate child friendly school aspects into the design, such as improved drinking water sources, separate toilet facilities for boys and girls, as well as stimulating learning spaces and necessary health and safety provisions.^{lxxxvii}

The implementation of this strategy is expected to be gradual and spread over several years. Priority should be given to those rural areas which have low numbers of secondary schools and high proportions of OOSC, such as in Oromia, SNNP and Amhara. Besides regional priorities, locations without a current secondary school within 10 km radius should be prioritized. Within the below cost calculations, we assumed that the first target could be the realisation of 20 per cent of the total school capacity needed to incorporate all OOSC of secondary school age. Given that not all OOSC of secondary school age are ready to be attending secondary school, since they have never attended school or did not finish primary school, the gradual increase of school capacity can coincide with other initiatives to keep children in school longer.

Draft Estimated Costs: The draft of the estimated costs consists of three components. First, we calculated the number of classrooms and additional schools required if all the OOSC lower secondary school-aged children would be in school. Second, we estimated the total costs in Birr and US dollars based for the proposed number of schools in the first stage. The last component is on the additional teaching and support staff which is needed when these new schools are realized. Acknowledging these recurrent costs, especially in an environment when there are teacher shortages, is important because they may require early investment in, for instance, teacher training. To estimate the number of schools required we used the number OOSC of secondary school age from the Luminos study^{lxxxviii} combined with the guidelines for maximum 40 students per classroom. We increased the number of classrooms per school from the guidelines, based on our observation that the average number of students per school is much higher than the 4 proposed classrooms. At a national level 8,568 schools are required to create capacity for the OOSC of lower secondary age (See Annex C – Table C2b for more detail).

The preliminary cost estimation, using the average costs to build a school from the IMaCS 2015 strategy proposal^{lxxxix}, shows a total budget estimate of ETB 16,533,063,140 or USD 367,789,563 (See Annex C – Table C2c). This amount assumes that the first goal is to reach 20 per cent of the

required capacity. It is important to acknowledge that increasing the access to secondary school requires a multi-phase and multi-year implementation strategy.

We acknowledge that there are more recurrent staffing and maintenance costs associated with running these additional schools. These costs will need to be incorporated in the national and local education budgets. Table C2d in the Annex highlights the number of additional staff.



Strategy #3: Universal School Feeding

Rationale: Poverty and having adequate nutrition are key reasons for children to be out of school or being at-risk of dropping out. Especially in agricultural areas parents face the decision between school and long hours of agricultural or other economic work.^{xc} Malnutrition also contributes to under- or delayed development of children,^{xcii} and may affect children's ability to concentrate and learn in class. Developmental and concentration issues put children at higher risk of school repetition and dropout. School feeding programmes have shown to be able to increase school enrolment and attendance and have a positive effect on learning.^{xciii} Ethiopia has a school feeding programme in Oromia and Afar funded by the World Food Programme and there have been several emergency school feeding programmes funded largely by the Government of Ethiopia. However, our findings indicated that there is a lack of adequate coverage and concerns that the existing programmes will phase out. Scaling up school feeding programmes to provide sustainable school meals, which are accessible to a larger population of vulnerable families would address these concerns.

Background and examples: The World Food Programme in collaboration with the Government of Ethiopia started their first school feeding programmes in 1994. Since this date school feeding programmes either to complement regular feeding practices or to provide support in the case of humanitarian crises such as flooding or droughts have been present in the country. In the 2015 Comprehensive Costed Strategy Document,^{xciii} one of the key recommendations was to scale up the school feeding programme in Afar, Oromia, Somali and SNNP region, where the World Food Programme was already present. Since then, the Government has committed to further scale up the school feeding programme in its National Nutrition Program II (2016-2020). The commitment includes a scale up on homegrown school feeding from 0 to 25 per cent.

Description: In a concept note on the *National School Feeding Implementation Plan for 2020/2021* by the Ministry of Education^{xciv}, the commitment to providing school feeding nationwide using local production of food is confirmed. The concept note describes serving hot meals prepared with fresh ingredients combined with locally produced high nutrient bars. The combination considers the healthier and more cost-efficient option of hot meals with easier

implementation of bars. The note also outlines a gradual implementation starting with Grade 1 to 4 nation-wide and scaling it up to include one additional grade at the time up to Grade 8.

In our proposed strategy we present an updated version of this plan. Given the high overall costs, we break down the costs by region, such that the scale up in regions such as Somali and Oromia, which shows the highest proportion of food insecurity, can be prioritized. Besides we would also recommend starting to scale up in regions with existing programmes since there are existing implementation partners and other on the ground capacity to assist with the supply of ingredients, distribution, and preparation of foodstuffs, etc.

Draft Estimated Costs: The total costs for a nationwide school feeding programme for Grade 1 to 4 result in ETB 51,755,615,531 or USD 1.15 billion (See Annex C – Table C3a), based on the update costs from the concept note on the *National School Feeding Implementation Plan for 2020/2021* by the Ministry of Education^{xv}. The costs for the three regions with highest levels of food insecurity, Somali, Oromia and SNNP region the costs would result in ETB 37,365,739,858 or USD 54.6 million to cover children in Grade 1 to 4. For the cost estimate, we have updated the costs presented in the 2020 concept note. We want to mention that even though the concept note mentioned other costs, such as the need of community kitchens with cooking supplies and storage facilities, it is unclear whether the estimation includes costs for e.g., distributing the bars, recurrent costs of payment for the kitchen staff. These additional costs may be a burden on the budget when not accounted for, especially in the early implementation phase. In addition, since at the time of writing the concept note there was no capacity yet to manufacture the nutrient bars the costs estimate seems roughly based on raw ingredients. Any added value to the product, or investment costs in the manufacturing were therefore not accounted for.

We also estimated the costs of including all primary school children in the school feeding programme (See Annex C Table C3b). Even though we support the proposition of a gradual scaling up, there is need for additional fiscal space soon. If the national school feeding programme is expanded to all primary school students who are currently enrolled the programme would cost ETB 83.9 billion or USD 1.9 billion per school year. The funding for the programme should come from a combination of national funds and the international community.



Strategy #4: Employment Outcomes-Focused Curriculum

Rationale: Respondents in this study said that economically disadvantaged primary students may drop out of school because of their current need to work, whereas secondary students may drop out because of their current need to work, as well as the lack of

conviction that continuing in school will result in higher income later. Respondents said that the information in school curriculum is not directly beneficial to gaining employment or improving livelihoods. Families are strained by the opportunity costs of not being engaged in family-supporting labour, leading students to drop out of school to help with current needs. Although some higher-level respondents pointed to the benefit of school for the sake of personal growth, caregivers and OOSC made clear that gaining employment out of school is their primary concern, meaning that the supply side needs to respond to this demand to increase retention.

Description: This strategy focuses on expanding TVET and revising secondary curriculum to include focused tracks that prioritize skills for in-demand sectors by region. Despite the expansion of TVET since 2000, gaps remain in equitable and region-specific offerings^{xvii}. We also recognize the current, ongoing curriculum reform going on Ethiopia includes competence or outcome-based curriculum, thus this strategy focuses on the development of curriculum contents and materials relevant to outcome-based education. The strategy is targeted to secondary schools, where students take classes that develop a skillset that increases their attractiveness to employers in high-demand sectors. In addition to a set of requisite skills in priority subjects that all students would still complete, the strategy gives students the option of taking electives that increase the likelihood of employment in a specific sector. The vocational track offered should be highly relevant and applicable to the local economy. The aim is to build on existing efforts to ensure that students are more likely to gain future employment by completing their vocational education track and by graduating from lower secondary school.

To ensure the curriculum targets appropriate and high-growth potential sectors, as well as focuses on the needs of the local economy, this strategy would also entail conducting a labour market information (LMI) survey that determines key sectors based on market demand. Conducting an LMI survey with informants from the business sector can benefit students as well as businesses, who are likely interested in attracting skilled labour. Other LMI surveys^{xviii} have collected data on occupations, wages, and vacancies, among other indicators, to establish data that matches employers' human capital needs to secondary school curricular offerings.

Background and relevant examples: Vocational programmes and curriculum have been successfully integrated in schools throughout the world, including in sub-Saharan Africa, the United States, and Latin America. Sharma (2001) found that vocational education can increase likelihood of retention, improve students' capacity employment opportunities after schooling, and equip youth with a practical education. Though this strategy follows from our study findings, it also aims to build on the gaps in TVET explained in the Ethiopia Education Development Roadmap (2018). The document outlines a significant effort to expand TVET throughout the country as part of the 2030 strategy. Though the document indicates progress,

it also identified weaknesses in resources to implement the policy, contextualization of the strategy plan to the business industry culture and local development plans, and lack of infrastructure, among others. Thus, implementation of this strategy would require coordination with the existing efforts to expand TVET, including identifying key gaps and strategies for filling them in a context-specific way—especially in rural areas.

Draft estimated costs: The draft of the estimated costs for the employment-focused curriculum consists of three components. First, we calculated the costs for conducting a labour market information survey in one region. Second, we estimated the total costs in Birr and US dollars for the development of labour-track curriculum for one subject, including piloting the development. The last component—which is included in the second budget—is on the cost of training, teaching, and support staff which will be required for the labour specialization curriculum. We anticipate that the costs of the last component will be ongoing. We estimated the number of surveys, though the number should be based on power calculations for a random sample of businesses in the region.

We recommend the survey and curricula be developed for every region. We assume the costs of this strategy can be jointly covered by the MoE and the Department of Ministry of Labor and Social Affairs, as well as with private sector investments. The total estimated cost of the LMI survey for one region is 2,965,517 ETB (\$65,970) and the total estimated cost of revision of one curriculum is 3,100,960 ETB (\$68,983). See tables C4a and C4b in Annex C for detailed costs.



Strategy #5: Child Tracking and Cross-Sectoral (E)MIS

Rationale: Stakeholders at the national and local levels spoke to the challenges of monitoring across several areas, including in education management, child tracking longitudinally, as well as in the crossover between programming in social protection and education. Despite ongoing efforts at strengthening the MIS for education since at least 2009 (according to our review of the literature), our study indicated that strengthening MIS tracking could help streamline processes across multiple areas, including cross-sectoral collaboration, allocation of resources, and ensuring that migrants and other disadvantaged children are progressing and staying in school.

Description: This strategy builds on the ICRA Management Consulting Services Limited (IMaCS) (2015) report Intervention 7 on strengthening the child tracking system, as well as the existing efforts in the social protection section on MIS. We recommend a few key revisions from the 2015 strategy suggestions; first, instead of using community volunteers to collect this data, the MoE can work cross-sectorally with other government entities to hire permanent employees or private contractors who gather and maintain data for this system. Second, the training of

trainers model recommended in the 2015 report should be replaced by permanent employment of experts in monitoring systems. Sintayehu and Menber (2019)^{xcviii} conducted a review of the Ethiopian MIS and concluded that the sector lacks qualified professionals to maintain a high-quality system, indicating that it is imperative that the MoE identify and consult experts on staffing up a cadre of trained professionals in this sector.

The strengthened system might focus on, based on our experience in working with the existing data, 1) longitudinal data to understand survival rates over the lifetime of a cohort (e.g., understanding the proportion of a set of students entering grade 1 who survive to later grades); 2) indicators to predict survival based on demographics; and 3) geographic and lifestyle characteristics such as urban vs rural, conflict vs non-conflict, or pastoral vs non-pastoral. Such tracking will become increasingly important with the number of migrants in the country, as well as to serve the needs of pastoral populations who have high numbers of OOSC.

Background and relevant examples: This strategy recognizes the ongoing efforts of the education and social protection sections in the country to build a robust MIS. Under the GEQIP, the World Bank Program Appraisal Document (2017) identified problems with “fragmented data management processes, weak collaboration among directorates at the national and regional levels, and limited capacity to analyse data” (p. 6) that have hampered the utilization of the EMIS. Results from the efforts indicated that the timeliness of reporting has improved, though there is still need for strengthening in data quality, as we experienced in our use of the data for our analyses. The results report also identified ongoing challenges with the need for manual data collection in rural areas especially during times of conflict (p. 37)¹³. Thus, this strategy would rely on close collaboration with those who previously worked on GEQIP, as well as collaboration with colleagues from the social protection sector for merging information.

Draft Estimated Costs: The estimate for this strategy assumes 1) the existence of an EMIS upon which the activity will build, 2) collaboration with the social protection sector, and 3) the establishment of a robust MIS-focused permanent workforce. We estimated costs for Oromia, one of the regions that identified challenges with the MIS. We estimate the yearly cost of this strategy in Oromia to be ETB 249,340,000 (\$5,546,743).

¹³ From World Bank Document: <https://documents1.worldbank.org/curated/en/141401597014133031/pdf/Ethiopia-Second-General-Education-Quality-Improvement-Project.pdf>



Strategy #6: Safe Drinking Water at Schools Through Improved Water Sources

Rationale: According to data from the MoE's latest Education Statistics Annual Abstract,^{xcix} 78 per cent of primary schools and 89 per cent of secondary schools have access to water supply. Ethiopia has made substantial progress in expanding water access in the last five years; data from 2015/2016 showed only 38 per cent of primary schools and 62 per cent of secondary schools had access to water supply (80 per cent from an improved/protected source).^c A lot of this development has taken place as part of the government's flagship One WaSH National Programme (OWNP) as well as through significant UNICEF support. These figures, however, do not show the full picture of water supply at schools.

Large gaps remain concerning regional disparities, quality of water for drinking purposes, and actual availability of water. EMIS data from 2017 presented in a report from the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) shows that only 25 per cent of schools have "water available 5-7 days per week" (definition of drinking water availability in Ethiopia), one of the lowest rates in sub-Saharan Africa.^{ci} According to JMP estimates, Ethiopia has the largest total number of children without access to *drinking* water at their schools in the region and the world.^{cii} The same report shows that in 2019 only 15 per cent of schools have 'improved' and 'available' water service, 8 per cent 'improved' but 'not available' and 76 per cent 'no facility' or 'unimproved.' When disaggregated by region, we observe some stark differences. Further calculations and analysis of recent survey data show that that access to improved drinking water sources and water availability levels are most pressing in Afar, Gambela, Harari, Somali, SNNP, and Tigray.^{ciii} These six regions show the lowest rates of either '*functional*' water supply or '*water availability*', or a combination of both.

In addition, our qualitative data showed that water availability in schools is a concern and a reason for low school attendance, together with lack of adequate sanitation facilities. Though our strategy focuses on drinking water supply, it must be implemented in alignment with the 'minimum package of WASH services' for schools, as established under the Government of Ethiopia's ONE WaSH National Programme (described later in this section).

Description: We recommend prioritizing access to safe drinking water for students and teachers in government primary schools as well as those funded by international donors. This would involve the construction of drinking water facilities at schools using *improved* water sources. Special attention should be given to emerging, drought and emergency-affected regions, where water availability is limited, or water supply may be compromised. In line with Intervention 10 from 2015 IMaCS report, we also propose the construction of tube wells (boreholes) to expand access to safe drinking water at schools, which may be more cost-

effective than piped water and more viable and common in rural areas. However, appropriate water solutions would need to be determined on a case-by-case basis considering factors such as existing water sources, hydrological conditions, and other climate factors.

Considering limited funding and the need for prioritization, we recommend implementing this strategy in primary schools in five regions: Afar, Gambela, Oromia, Somali, and SNNP.¹⁴ We selected these regions based on the following reasons: (a) high water access needs relative to their number of schools (Afar, Gambela, Somali, and SNNP); (b) exposure to recurring droughts (Afar, Oromia, Somali, and SNNP); and large school population (Oromia and SNNP).

Even though schools in Oromia have better access to improved water sources, the rate of water availability is just over 50 per cent. We prioritized this region given the scale of drought-affected zones, primarily in lowland pastoral areas. In this context, boreholes can provide a more reliable supply of water. Lastly, we also accounted for the number of schools in Oromia, the highest in the country. We did not include Tigray given missing data on water availability and the need to better understand the extent and implications of damages to infrastructure and schools due to the conflict. Despite having very low levels of water availability at schools, we also did not include the region of Harari given the low number of schools in the region.

Background and relevant examples: As mentioned earlier, the Government of Ethiopia has dedicated significant resources to improve the country’s WASH sector. Its flagship One WaSH National Programme (OWNP), supported by various development partners and NGOs, follows a sector wide approach (SWaP) to address water supply, sanitation and hygiene as one integrated package and achieve targets set in the national Growth and Transformation Plan. The OWNP’s institutional component puts forward a minimum package of WASH services in schools that must include the following: latrine, hand washing, menstrual hygiene management facilities, urinals, drinking water fountains/taps. The standard feature for water facilities is defined as “Adequate and safe water supply should be available in schools. There should be a drinking fountain or tap; at least one tap for 100 students.”^{civ} OWNP’s Phase II Programme Document presents estimated investment costs to provide water supply and sanitation facilities (full WASH package) in 80 per cent of 36,518 primary and secondary schools in all eleven regions.¹⁵

UNICEF’s Resilience in Ethiopia (RESET) II project, funded by the European Union and implemented jointly with the Acacia Water and Aquacon joint venture, is developing

¹⁴ Data on water availability from Gambela are missing and data from Tigray appear to be inaccurate in the latest Education Statistics Annual Abstract (2019/2020). Collecting this information from both of these regions would help to understand better the water needs at schools and further refine the strategy.

¹⁵ See “Table 12.7: Summary of cost for WASH in schools by region, Phase II 2018-2020” in Government of Ethiopia, NWCO, 2018.

groundwater suitability maps in several woredas across Afar, Amhara, Oromia, SNNP, and Somali to improve access to water for drought-affected communities through the drilling of boreholes. The suitability maps serve to inform the likelihood of drilling success.^{cv} Findings from this and other mappings can help determine the suitability of proposed tube wells in schools.

Draft estimated costs: The estimated costs cover installation of water supply systems (tube well/borehole) and repair of existing ones (piped water) in primary schools in the six regions. The estimated number of tube well units account for: (a) number of schools in the region; (b) existing tube well coverage in schools; and (c) levels of system functionality and water availability. In Gambela, we proposed rehabilitating piped water systems given that it is the most used improved water source and lack of functionality is a major issue. The Ministry of Water, Irrigation and Electricity would be responsible for contracting and implementing water supply schemes. The total estimated cost of this strategy in primary schools in five regions is 2,027,739,550 Birr (USD 45,108,486). See Table C6 in Annex C for detailed costs.

5. Conclusions

Overall, we found that, despite a relatively robust policy and strategy sphere on the part of the government and donors, practical, economic considerations drive supply- and demand-side barriers to enrolment and retention. The practical challenges are cross-sectoral, going beyond education into areas of critical infrastructure deficits, lack of collaboration with social protection monitoring systems, and a misalignment of priorities between sectors. Finally, the driver of most challenges is the inability to finance practical solutions that, according to a large body of research we reviewed in the desk review, are likely to work.

What? According to secondary quantitative data, children most at-risk of dropping out during school transitions (i.e., after grades 1 and 9) and in the Afar and Benishangul-Gumuz regions. The highest survival rates are in Addis Ababa. Children are much less likely to drop out of private schools than they are to drop out of public and religious schools.

Why? On the demand side, caregivers and children are constrained by the need for labor and food. These basic challenges affect primary level, whose caregivers may pull them out of school to help with household chores or income-generating activities, as well as secondary level, when children will themselves assess the relative costs and benefits of enrolling in school versus participating in income-generating activities. These demand side challenges are compounded by what respondents perceived as critical supply side barriers, including a lack of practical use of

the curriculum after school completion, lack of food and water at school facilities, and lack of schools, WASH facilities, and high-quality teachers.

How? We found strong collaboration between the education and social protection sections, especially with school feeding programs and on the PSNP; however, respondents indicated that the collaboration is project-based instead of institutionalized, and that sector-level incentives and budget restrictions do not allow for consistent

Solutions must focus on addressing the needs of caregivers and children, which are largely economic. These challenges are not new to education in Ethiopia. The documents we included in the desk review explained ongoing efforts to address the problems. As such, our costed strategies—though they reflect the most pressing challenges we identified in our research—aim to build on existing efforts to continue addressing key challenges. These draft strategies—to be refined in collaboration with UNICEF, the MoE, and other key stakeholders during the validation workshop—aim to catalyze more embedded solutions that rely less on project and donor funds and become part of a permanent, government-led strategy to address the problem of OOSC.

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Annex A. Tables and figures

Table A1. Evaluation matrix of the ‘What’ and ‘Where’ component¹⁶

No.	Evaluation Question	Indicator	Data Source(s)
1	What is the estimated number and percentage of children who are at-risk of dropping out of school in Ethiopia?	<ul style="list-style-type: none"> Survival rate per grade of primary school Survival rate per grade for secondary Number and percentage of children who are of primary school age and are at risk of dropping out Number and percentage of children who are of secondary school age and are at risk of dropping out 	<ul style="list-style-type: none"> Administrative data: <ul style="list-style-type: none"> EMIS/MoE Education Statistics 2019 and 2020.
2	In which regions are those at-risk children?	<ul style="list-style-type: none"> The survival rates by grade of the previous questions disaggregated by region 	<ul style="list-style-type: none"> Administrative data: <ul style="list-style-type: none"> EMIS/MoE Education Statistics 2019 and 2020.
3	Which children are at risk of exclusion from schooling?	<ul style="list-style-type: none"> Survival rate by primary school grade, disaggregated by gender and type of school Survival rate by secondary school grades disaggregated by gender and type of school 	<ul style="list-style-type: none"> Administrative data: <ul style="list-style-type: none"> EMIS/MoE Education Statistics 2019 and 2020.
4	Which children are out of school?	<ul style="list-style-type: none"> Risk and protective factors associated with dropout in primary school. Risk and protective factors associated with dropout in lower secondary school. 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> Socio-Economic Survey 2018-2019 Primary data: <ul style="list-style-type: none"> KIIs with education officials KIIs with policy experts

¹⁶ The research questions 1 to 4 have changed to focus only on at-risk children to complement the Luminos study as was decided in the inception phase of this project. The order of research questions has been changed to first discuss the location and profile of at-risk children first, after which we present common risk and protective factors for children dropping out of school.

No.	Evaluation Question	Indicator	Data Source(s)
5	What is the estimated number of children who did not return to school following school closures due to the COVID-19 pandemic?	<ul style="list-style-type: none"> Number and percentage of at-risk children of dropping out due to COVID-19 related risk factors by region. Main reasons children were not in school in 2020 	<ul style="list-style-type: none"> Secondary data analysis: <ul style="list-style-type: none"> Ethiopia's High-Frequency Phone Survey of Households (2020)

Table A2. Evaluation matrix of the 'Why' component

No.	Evaluation Question	Indicator	Data Source(s)
1	What is the evidence on demand-side sociocultural barriers?	<ul style="list-style-type: none"> Perceived barriers for boys such as discrimination, violence and safety issues, and cultural practices by education level Perceived barriers for girls such as discrimination, violence and safety issues, and cultural practices by education level 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> 2019 National Situation Analysis of Children and Women Education sector development reports Relevant academic articles Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials Demand-side FGDs
2	What is the evidence on demand-side economic barriers?	<ul style="list-style-type: none"> Existence and magnitude of school fees and out-of-pocket expenditures for education Prevalence of child labour Impact of large-scale shocks (e.g., COVID-19, civil war) on household economies 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> 2019 National Situation Analysis of Children and Women Education sector development reports Relevant academic articles Primary data: <ul style="list-style-type: none"> KIIs with education officials Demand-side FGDs

No.	Evaluation Question	Indicator	Data Source(s)
3	What is the evidence on supply-side barriers?	<ul style="list-style-type: none"> Perceived barriers such as deficits in school infrastructure, human capacity and other resources by education level Perceived barriers such as deficits in physical infrastructure, long distance to school, and safety issues by education level Provisions in place for children with special needs by education level 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> 2019 National Situation Analysis of Children and Women Education sector development reports Relevant academic articles Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials
4	What are the political bottlenecks that impede the successful implementation of policies and strategies?	<ul style="list-style-type: none"> Perceived lack of political commitment to inclusion Alignment of education policies to support strategies of inclusion Existence of restrictive administrative regulations that hinder school access, such as requiring birth certificates for school enrolment 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> 2019 National Situation Analysis of Children and Women Education sector development reports Relevant academic articles Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials
5	What are the governance and capacity bottlenecks that impede the successful implementation of policies and strategies?	<ul style="list-style-type: none"> Alignment between policy and strategy and departmental mandates Perceived technical capacities to address the needs of excluded groups Level of cross-sectoral collaboration Integration of adequate monitoring mechanisms 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> Education sector reports Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials Demand-side FGDs

No.	Evaluation Question	Indicator	Data Source(s)
6	What are the financial bottlenecks that impede the successful implementation of policies and strategies?	<ul style="list-style-type: none"> Observed funding gaps Alignment between allocation of resources and children’s needs Perceived efficiency of resource allocation 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> 2019 National Situation Analysis of Children and Women Education sector development reports/budgets Relevant academic articles Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials

Table A3. Evaluation matrix of the ‘How’ component

No.	Evaluation Question	Indicator	Data Source(s)
1	What education policies and strategies exist to address the OOSC problem and how effective are they (including strategies targeted at pastoralists, internally displaced persons [IDPs] and the refugee population as well as alternative and basic education [ABE] strategies)?	<ul style="list-style-type: none"> Existence and effectiveness of education policies targeted at OOSC and those at risk Perceived effectiveness of education policies Existence and strength of synergies between policies that address the OOSC problem 	<ul style="list-style-type: none"> Secondary data: <ul style="list-style-type: none"> Desk review of existing policy documents and programme reports Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials Demand-side FGDs

No.	Evaluation Question	Indicator	Data Source(s)
2	Is there any fiscal space that is intended to reduce disparities in equitable access to learning opportunities?	<ul style="list-style-type: none"> • Availability and quantity of resources to reduce disparities in equitable access to schooling 	<ul style="list-style-type: none"> • Primary data: <ul style="list-style-type: none"> – KIIs with policy experts – KIIs with education officials • Secondary data: <ul style="list-style-type: none"> – Desk review of existing policy documents and programme reports – Education sector review reports/budgets
3	What are the key social protection programmes in Ethiopia? How are they financed? How have they evolved over time?	<ul style="list-style-type: none"> • List of key social protection programmes in Ethiopia • Expansion of these programmes over time in terms of resources and beneficiary population(s) 	<ul style="list-style-type: none"> • Primary data: <ul style="list-style-type: none"> – KIIs with policy experts – KIIs with education officials – Demand-side FGDs • Secondary data: <ul style="list-style-type: none"> – Desk review of existing policy documents and programme reports
4	What are the demonstrated and perceived impacts of social protection programmes on OOSC in relation to each of the 5DE?	<ul style="list-style-type: none"> • Impact of social protection programmes on OOSC in relation to each of the 5DE • Perceived impact of social protection programmes on OOSC in relation to each of the 5DE 	<ul style="list-style-type: none"> • Primary data: <ul style="list-style-type: none"> – KIIs with policy experts – KIIs with education officials – Demand-side FGDs • Secondary data: <ul style="list-style-type: none"> – Desk review of existing impact evaluations
5	To what extent does social protection policy and its implementation adopt a cross-sectoral approach, and what role does the education sector play?	<ul style="list-style-type: none"> • Existence and strength of cross-sectoral collaboration in the definition and implementation of social protection policy 	<ul style="list-style-type: none"> • Primary data: <ul style="list-style-type: none"> – KIIs with policy experts – KIIs with education officials • Secondary data: <ul style="list-style-type: none"> – Desk review of existing policy documents and programme reports

No.	Evaluation Question	Indicator	Data Source(s)
6	What are the existing policies and strategies related to school WASH, school health and nutrition, and child protection programmes that have relevance to education service delivery for OOSC?	<ul style="list-style-type: none"> List of key school WASH and school health strategies relevant to education service delivery List of key child protection programmes relevant to education service delivery 	<ul style="list-style-type: none"> Primary data: <ul style="list-style-type: none"> KIIs with policy experts KIIs with education officials Demand-side FGDs Secondary data: <ul style="list-style-type: none"> Desk review of sector-specific reports
7	To what extent are school WASH and school health and nutrition facilities, as well as child protection services, being effectively utilized and provided at the school level?	<ul style="list-style-type: none"> Number and percentage of children living in communities with health facility; improved water facilities Perceived impacts of school WASH, health and nutrition facilities and child protection services 	<ul style="list-style-type: none"> Primary data: <ul style="list-style-type: none"> KIIs with education officials Demand-side FGDs Document Review Secondary data: <ul style="list-style-type: none"> Socio-Economic Survey 2018-2019

Table A4. Survival rates by grade, gender and region

	Grade	Sex	National	Addis Ababa	Afar	Amhara	Benishangul	Dire Dawa	Gambela	Harar	Oromia	SNNP	Somali	Tigray
Primary school	1	Boys	75.60%	92.4%	66.0%	81.3%	61.8%	66.4%	70.7%	78.8%	71.3%	75.5%	98.0%	84.6%
		Girls	76.30%	88.2%	66.4%	84.3%	61.6%	69.2%	71.8%	79.3%	71.6%	75.8%	93.8%	88.9%
	2	Boys	86.00%	99.0%	84.3%	83.6%	79.5%	83.1%	99.5%	80.9%	82.7%	89.6%	103.7%	89.0%
		Girls	86.60%	96.7%	78.7%	88.0%	78.0%	82.4%	96.3%	78.8%	82.1%	89.8%	101.3%	93.1%
	3	Boys	88.70%	101.2%	85.4%	85.1%	87.2%	85.7%	105.8%	87.1%	85.6%	93.8%	100.1%	90.7%
		Girls	89.60%	103.0%	82.3%	90.7%	83.6%	83.0%	102.3%	86.8%	85.1%	92.8%	99.5%	94.4%
	4	Boys	85.20%	102.0%	73.0%	84.0%	91.6%	90.4%	92.2%	88.1%	84.0%	85.2%	89.8%	87.6%
		Girls	86.10%	103.4%	67.4%	88.9%	88.0%	85.3%	89.8%	93.5%	83.4%	84.4%	84.7%	92.9%
	5	Boys	82.70%	98.2%	77.5%	82.5%	80.4%	87.5%	93.3%	92.2%	79.9%	86.9%	79.5%	81.9%
		Girls	84.70%	101.7%	72.6%	87.8%	79.4%	86.3%	94.9%	85.2%	79.4%	87.3%	79.1%	87.8%
	6	Boys	88.90%	105.7%	86.1%	85.4%	86.4%	91.9%	103.3%	98.1%	87.3%	94.9%	86.9%	86.5%
		Girls	90.30%	105.8%	79.7%	90.7%	88.1%	90.0%	100.9%	101.6%	86.4%	93.8%	83.5%	91.2%
	7	Boys	90.70%	93.9%	86.7%	89.3%	87.4%	82.4%	124.5%	97.1%	83.7%	103.1%	109.2%	87.4%
		Girls	90.90%	105.3%	76.5%	92.5%	93.1%	84.8%	118.2%	88.3%	81.8%	100.4%	87.7%	91.6%
	8	Boys	84.50%	91.1%	91.4%	82.9%	93.8%	83.7%	77.3%	114.8%	91.9%	76.4%	92.9%	72.7%
		Girls	82.40%	83.8%	83.8%	83.9%	91.5%	84.0%	75.3%	109.8%	89.5%	73.6%	82.3%	72.6%
Lower secondary school	9	Boys	72.50%	84.6%	71.5%	66.4%	68.3%	82.2%	116.1%	73.7%	66.4%	84.2%	106.6%	70.6%
		Girls	72.90%	82.8%	73.7%	66.1%	74.0%	80.7%	106.1%	68.1%	66.0%	85.4%	112.1%	76.7%
	10	Boys	93.60%	90.9%	85.9%	92.6%	50.6%	75.1%	61.4%	48.1%	111.6%	87.9%	74.0%	50.0%
		Girls	83.40%	84.7%	90.0%	82.9%	50.7%	76.2%	39.2%	55.6%	97.1%	83.0%	77.3%	46.5%

	Grade	Sex	National	Addis Ababa	Afar	Amhara	Benishangul	Dire Dawa	Gambela	Harar	Oromia	SNNP	Somali	Tigray	
Higher secondary school	11	Boys	91.60%	96.3%	85.3%	91.7%	87.4%	93.5%	133.8%	84.2%	87.1%	97.1%	115.9%	88.9%	
		Girls	90.90%	97.7%	106.9%	89.9%	85.5%	81.5%	104.5%	79.8%	86.8%	102.2%	115.2%	89.5%	
	12	Boys													
		Girls													
Total		Boys	85.45%	95.94%	81.19%	84.07%	79.51%	83.83%	98.00%	85.72%	84.69%	88.61%	96.05%	80.89%	
		Girls	84.92%	95.74%	79.82%	85.97%	79.41%	82.11%	90.85%	84.25%	82.66%	88.05%	92.40%	84.11%	

Table A5. Linear probability model on the likelihood of dropping out of primary school

VARIABLES	(1) National	(2) TIGRAY	(3) AFAR	(4) AMHARA	(5) OROMIA	(6) SOMALI	(7) BENISHANG UL GUMUZ	(8) SNNP	(9) GAMBELA	(10) HARAR	(11) ADDIS ABABA	(12) DIRE DAWA
Female	-0.004	-0.025	-0.002	-0.029	0.004	-0.042*	-0.046	0.012	0.005	0.012	0.056**	0.063*
	(0.013)	(0.022)	(0.036)	(0.029)	(0.026)	(0.022)	(0.030)	(0.025)	(0.015)	(0.029)	(0.025)	(0.033)
Urban	0.005	-0.023	-0.017	-0.044	-0.004	-0.038	-0.015	0.076	0.003	0.046		-0.004
	(0.028)	(0.026)	(0.044)	(0.041)	(0.075)	(0.032)	(0.042)	(0.052)	(0.022)	(0.044)		(0.085)
HH size > 6	-0.010	-0.006	-0.128**	-0.004	-0.019	-0.014	-0.057	-0.011	-0.047**	-0.021	-0.003	0.024
	(0.019)	(0.029)	(0.049)	(0.041)	(0.044)	(0.037)	(0.038)	(0.027)	(0.022)	(0.043)	(0.092)	(0.039)
Female headed HH	0.034*	-0.025	-0.056	0.060	0.037	-0.035	-0.031	0.047	-0.051**	0.042	0.013	-0.036
	(0.018)	(0.026)	(0.058)	(0.049)	(0.041)	(0.031)	(0.050)	(0.035)	(0.021)	(0.068)	(0.042)	(0.030)
Living with at least 1 biological parent	-0.076**	-0.039	0.015	-0.113	-0.097	-0.001	0.011	-0.070	-0.051	-0.003	-0.073	-0.079
	(0.031)	(0.043)	(0.171)	(0.095)	(0.060)	(0.025)	(0.057)	(0.045)	(0.043)	(0.071)	(0.070)	(0.061)
Orphan: Both parents died	-0.025	0.987***	-0.142	0.311***	-0.056	-0.076	-0.037	-0.075	0.083	-0.002	0.033	0.088
	(0.099)	(0.053)	(0.158)	(0.109)	(0.162)	(0.061)	(0.045)	(0.070)	(0.149)	(0.097)	(0.205)	(0.144)

VARIABLES	(1) National	(2) TIGRAY	(3) AFAR	(4) AMHARA	(5) OROMIA	(6) SOMALI	(7) BENISHANG UL GUMUZ	(8) SNNP	(9) GAMBELA	(10) HARAR	(11) ADDIS ABABA	(12) DIRE DAWA
People per room	0.012**	0.009	0.006	-0.002	0.010	0.030***	0.009	0.020***	0.002	0.013	-0.001	0.008
	(0.005)	(0.008)	(0.014)	(0.013)	(0.011)	(0.011)	(0.009)	(0.007)	(0.004)	(0.009)	(0.026)	(0.009)
Father is employed	-0.018	0.032**	-0.570**	-0.001	0.117***	0.075	-0.889***	-0.122***	0.012	-0.430*	0.127***	0.099***
	(0.035)	(0.016)	(0.272)	(0.043)	(0.042)	(0.053)	(0.044)	(0.033)	(0.028)	(0.245)	(0.041)	(0.033)
Mother is employed	0.020	0.008	0.024	-0.028	0.032	-0.063	-0.042	0.067**	0.014	-0.019	0.027	0.078*
	(0.018)	(0.025)	(0.038)	(0.043)	(0.038)	(0.043)	(0.031)	(0.032)	(0.021)	(0.028)	(0.041)	(0.042)
Mother Education: Some primary	-0.036***	-0.006	-0.075*	-0.039	-0.059**	-0.022	-0.054*	-0.026	0.015	0.009	0.058	0.004
	(0.013)	(0.025)	(0.041)	(0.039)	(0.024)	(0.018)	(0.028)	(0.025)	(0.029)	(0.028)	(0.037)	(0.042)
Mother Education: Some secondary	-0.037	0.038	-0.030	0.030	-0.108***	0.045	-0.058	-0.035	0.033	-0.034	0.008	-0.043
	(0.024)	(0.054)	(0.077)	(0.106)	(0.035)	(0.037)	(0.042)	(0.044)	(0.041)	(0.046)	(0.040)	(0.039)
Mother Education: More than Secondary	-0.067***	-0.017	-0.071	-0.048	-0.114**	0.021	0.003	-0.151***	0.006	-0.050	-0.012	-0.066
	(0.020)	(0.037)	(0.062)	(0.039)	(0.046)	(0.035)	(0.044)	(0.055)	(0.024)	(0.052)	(0.036)	(0.062)
Electricity available in house	-0.013	0.023	0.024	-0.050	-0.002	0.052	-0.004	0.011	0.012	-0.031	0.033	0.057
	(0.027)	(0.024)	(0.076)	(0.038)	(0.075)	(0.038)	(0.032)	(0.047)	(0.028)	(0.040)	(0.039)	(0.086)
Wealth quintile: Middle & Richer & Richest	0.002	0.026	0.030	0.006	-0.018	0.027	0.025	0.038	0.051*	-0.009	-0.006	-0.012
	(0.021)	(0.025)	(0.057)	(0.055)	(0.036)	(0.041)	(0.023)	(0.038)	(0.026)	(0.040)	(0.076)	(0.030)
Owns non-ag business	0.010	-0.012	-0.189**	-0.010	0.038	0.143	0.000	-0.034	-0.010	-0.081**	-0.015	-0.017
	(0.025)	(0.029)	(0.071)	(0.052)	(0.054)	(0.153)	(0.058)	(0.025)	(0.022)	(0.040)	(0.041)	(0.036)
Number of shocks exposed to (last 12 months)	0.010	0.012	0.070**	0.023	0.017	-0.009	0.016	0.000	-0.008	0.023	-0.065*	0.012
	(0.007)	(0.017)	(0.030)	(0.015)	(0.016)	(0.011)	(0.014)	(0.012)	(0.011)	(0.024)	(0.034)	(0.014)
Regional variables	Yes	No	No	No	No	No	No	No	No	No	No	No

VARIABLES	(1) National	(2) TIGRAY	(3) AFAR	(4) AMHARA	(5) OROMIA	(6) SOMALI	(7) BENISHANG UL GUMUZ	(8) SNNP	(9) GAMBELA	(10) HARAR	(11) ADDIS ABABA	(12) DIRE DAWA
Constant	0.085 (0.059)	0.002 (0.054)	0.603 (0.394)	0.235* (0.131)	0.027 (0.087)	-0.121 (0.097)	0.967*** (0.065)	0.118 (0.079)	0.035 (0.050)	0.456 (0.282)	-0.042 (0.104)	-0.094 (0.073)
Observations	4,732	455	266	443	592	625	233	610	438	347	341	382
Adjusted R-squared	0.022	0.020	0.061	0.011	0.011	0.114	0.074	0.049	0.011	0.032	0.016	0.032

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table A6. Linear probability model on the likelihood of dropping out of secondary school

VARIABLES	(1) National	(2) TIGRAY	(3) AFAR	(4) AMHARA	(5) OROMIA	(6) SOMALI	(7) BENISHAN GUL GUMUZ	(8) SNNP	(9) GAMBELA	(10) HARAR	(11) ADDIS ABABA	(12) DIRE DAWA
Female	-0.007 (0.049)	-0.023 (0.100)	-0.076 (0.154)	-0.089 (0.123)	-0.031 (0.116)	-0.070 (0.147)	-0.156 (0.169)	-0.067 (0.108)	0.141 (0.106)	-0.012 (0.136)	0.128 (0.083)	-0.118 (0.090)
Urban	-0.182** (0.079)	-0.024 (0.161)	-0.491*** (0.157)	-0.448* (0.238)	-0.155 (0.169)	-0.139 (0.105)	-0.048 (0.184)	-0.206 (0.217)	-0.181 (0.113)	-0.099 (0.141)		0.099 (0.090)
HH size > 6	-0.056 (0.054)	0.227 (0.136)	-0.081 (0.277)	-0.085 (0.168)	-0.070 (0.141)	0.028 (0.089)	-0.107 (0.294)	-0.070 (0.138)	-0.155 (0.131)	-0.128 (0.138)	-0.082 (0.104)	-0.022 (0.126)
Female headed HH	0.032 (0.053)	0.115 (0.116)	-0.005 (0.235)	0.114 (0.169)	0.091 (0.121)	-0.216 (0.165)	0.099 (0.152)	-0.062 (0.134)	-0.136 (0.099)	-0.006 (0.131)	-0.089 (0.078)	0.084 (0.087)
Living with at least 1 biological parent	-0.077 (0.060)	-0.016 (0.148)	-0.230 (0.273)	-0.128 (0.156)	-0.097 (0.123)	-0.087 (0.112)	0.039 (0.129)	-0.038 (0.171)	-0.210 (0.158)	-0.361* (0.183)	-0.197* (0.106)	-0.046 (0.128)
Orphan: Both parents died	-0.145 (0.173)		0.448 (0.390)	-0.220 (0.306)	0.103 (0.341)	0.166 (0.146)	0.200 (0.523)	-0.310 (0.218)	0.175 (0.517)	-0.145 (0.358)	-0.327** (0.141)	-0.289 (0.223)

VARIABLES	(1) National	(2) TIGRAY	(3) AFAR	(4) AMHARA	(5) OROMIA	(6) SOMALI	(7) BENISHAN GUL GUMUZ	(8) SNNP	(9) GAMBELA	(10) HARAR	(11) ADDIS ABABA	(12) DIRE DAWA
People per room	0.019	0.016	-0.048	0.040	0.010	0.056	-0.007	-0.001	0.020	0.011	-0.019	0.002
	(0.015)	(0.032)	(0.055)	(0.032)	(0.034)	(0.035)	(0.049)	(0.039)	(0.026)	(0.042)	(0.026)	(0.026)
Father is employed	0.069	0.036		0.301	-0.157	-0.315	-0.243	0.063	-0.142	-0.086	-0.070	0.291*
	(0.083)	(0.135)		(0.199)	(0.189)	(0.184)	(0.236)	(0.136)	(0.149)	(0.381)	(0.145)	(0.158)
Mother is employed	-0.047	-0.055	-0.108	0.089	-0.270**	0.394***	-0.070	-0.016	0.123	0.100	0.063	-0.015
	(0.057)	(0.119)	(0.216)	(0.185)	(0.108)	(0.136)	(0.170)	(0.103)	(0.125)	(0.092)	(0.074)	(0.090)
Mother Education: Some primary	-0.018	-0.283***	-0.073	-0.057	0.107	0.036	0.027	-0.032	-0.025	-0.121	-0.042	-0.132
	(0.055)	(0.099)	(0.214)	(0.200)	(0.111)	(0.198)	(0.111)	(0.125)	(0.132)	(0.110)	(0.085)	(0.139)
Mother Education: Some secondary	-0.074	0.032	0.154	-0.082	-0.039	0.871***	-0.146	-0.152	0.248	-0.216	-0.131	-0.168
	(0.070)	(0.216)	(0.294)	(0.219)	(0.132)	(0.220)	(0.272)	(0.194)	(0.307)	(0.163)	(0.108)	(0.157)
Mother Education: More than Secondary	-0.210***	-0.020	0.264		-0.006	-0.295	0.140	-0.238	0.051	-0.031	-0.436***	-0.178
	(0.068)	(0.213)	(0.332)		(0.160)	(0.193)	(0.234)	(0.142)	(0.163)	(0.213)	(0.116)	(0.184)
Electricity available in house	0.012	0.026	-0.376	-0.048	0.038	-0.194	-0.219*	-0.074	-0.001	-0.779**	0.383***	-0.087
	(0.078)	(0.160)	(0.372)	(0.224)	(0.178)	(0.121)	(0.119)	(0.141)	(0.177)	(0.343)	(0.125)	(0.189)
Wealth quintile: Middle & Richer & Richest	0.072	0.206***	-0.260	-0.281*	0.253***	-0.289*	0.013	-0.001	-0.076	-0.318*	0.811***	0.119
	(0.059)	(0.074)	(0.188)	(0.154)	(0.093)	(0.145)	(0.122)	(0.158)	(0.142)	(0.158)	(0.145)	(0.088)
Owns non-ag business	0.072	0.327**	0.060	0.046	0.156	-0.111	-0.164	-0.120	0.113	-0.057	-0.070	0.404***
	(0.065)	(0.162)	(0.463)	(0.153)	(0.151)	(0.167)	(0.132)	(0.183)	(0.211)	(0.207)	(0.082)	(0.121)
Number of shocks exposed to (last 12 months)	-0.076***	0.026	-0.038	-0.081	-0.111*	-0.039	0.004	-0.106*	-0.084	0.062	-0.130**	0.019
	(0.024)	(0.042)	(0.138)	(0.087)	(0.055)	(0.035)	(0.041)	(0.062)	(0.134)	(0.119)	(0.062)	(0.058)
Regional variables	Yes	No	No	No	No	No	No	No	No	No	No	No

VARIABLES	(1) National	(2) TIGRAY	(3) AFAR	(4) AMHARA	(5) OROMIA	(6) SOMALI	(7) BENISHAN GUL GUMUZ	(8) SNNP	(9) GAMBELA	(10) HARAR	(11) ADDIS ABABA	(12) DIRE DAWA
Constant	0.462*** (0.146)	0.201 (0.238)	1.360* (0.749)	0.505 (0.327)	0.507 (0.353)	0.580* (0.315)	0.649* (0.311)	0.558* (0.299)	0.555 (0.333)	1.424** (0.614)	0.262 (0.248)	-0.048 (0.232)
Observations	955	115	47	80	91	67	65	107	76	55	167	85
Adjusted R-squared	0.084	0.080	0.109	0.019	0.006	0.260	-0.135	-0.014	0.030	0.071	0.169	0.200

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Annex B. Research ethics

In this section, we describe the measures the AIR team and its subcontractor took to prepare and carry out the research activities to ensure the safety, respect and representation of research participants at every step of the process.

Ethical approval

AIR's review and approvals. AIR's project director registered this project with AIR's Institutional Review Board (IRB; IRB00000436) to assess the project's compliance with standards of conduct and the protection of the rights of human research subjects. AIR requires annual ethics training for AIR staff and has an ethics officer who is responsible for establishing appropriate ethical and legal standards and overseeing compliance with laws, regulations and AIR's personnel manual. All AIR and Kimetrica staff involved in the collection of data from human research participants adhered strictly to the requirements of AIR's IRB. The IRB approved all research activities and protocols involving human subjects as well as an information security plan to protect the confidentiality of data collected from research participants.

All staff collecting data on behalf of AIR signed our Participant Protection Agreement to ensure that they are aware of the requirements for protecting human subjects in research. The AIR IRB follows the standards set forth by the American Evaluation Association and the Joint Committee on Standards for Educational Evaluation. Three general principles define these standards: (1) evaluators will conduct evaluations legally and ethically, taking into account the welfare of those involved in the evaluation as well as that of the general public; (2) evaluators will conduct evaluations in a competent and efficient fashion that will lead to reliable and accurate results; and (3) evaluators will design evaluations and report the results in a manner that is useful and appropriate to the intended audience. Clear guidelines exist regarding the expectations that Ethiopian data collectors must comply with (e.g., how to document informed consent, how to store and restrict access to physical files and electronic data files, and how to treat identifiable information).

In-country review and approvals. In addition to AIR's institutional IRB, the team also submitted an application to the IRB of the Ethiopian Society of Sociologists, Social Workers and Anthropologists (ESSWA) to conduct the study's research activities. The ESSWA approved the application and issued an ethical clearance.

Compliance with United Nations ethical standards. AIR's team followed the UNEG Code of Conduct, which requires a conflict- and gender-sensitive approach to research; adherence to

the do-no-harm principle; and transparency, confidentiality, accuracy, accountability and reliability, among other key principles.¹⁴ Specifically, with regard to the protection of vulnerable individuals and communities, the team adhered to the United Nations Declaration of Human Rights, the United Nations Refugee Convention, the Convention on the Rights of the Child, and the Convention on the Elimination of All Forms of Discrimination Against Women as well as other human rights conventions and national legal codes that respect local customs and cultural traditions, religious beliefs and practices, personal interactions, gender roles, disability, age and ethnicity.¹⁵

Special protections for children. AIR is strongly committed to the protection of children. Researchers that collected data on AIR’s behalf or had incidental contact with children in the study did not take any child out of sight and/or hearing of adult guardians (such as parents or teachers) and were never alone in any enclosed space with any child. If a child protection issue became apparent, the AIR team would make the appropriate referrals. AIR had in place a policy of immediate termination of any project staff member for any violation of these rules, no matter how slight.

Consent. All participants involved in the key-informant interviews and focus group discussions were asked for their informed consent. Participants were asked to give their consent in a language they understand, worded at an appropriate level for their age and educational background.

Data security

The AIR team followed a series of steps to ensure that all data collected in the field was secure and did not risk loss of confidentiality. The research team received approval for a data governance plan from AIR’s IRB that guided data security throughout the study. All team members are fully trained in AIR’s established data security protocols. When transmitting files digitally, we encrypted and password-protected all data files. During data analysis, only approved members of the team had access to the data.

Navigating COVID-19 risks

AIR and Kimetrica prepared a strategy to mitigate any risks posed by the COVID-19 pandemic as it relates to data collection. AIR monitored the situation and coordinated with UNICEF to gauge the viability of in-person interviews, meetings and fieldwork. In consultation with UNICEF and the IRB, AIR and Kimetrica determined that in-person research activities were viable. The team followed strict preventive measures to ensure the safety the data collectors and participants.

Annex C. Detailed strategy costs

Table C1a. Estimated costs of expanding classrooms and sanitation Facilities for OOSC 4–6-year-old students in Afar and Somali (80% GER target)

Region	Not attending pre-primary	Enrolment target (80%)	Additional classrooms and toilets needed	Unit Cost (Birr) ¹⁷	Total Cost (Birr)	Total cost (USD)
Afar	137,493	106,445	2,661	3,205,425	8,529,635,925	\$189,747,721
Somali	567,793	476,096	11,902	3,205,425	38,150,968,350	\$848,694,996

*Assume 40 students per 1 classroom

** The total cost in pre-pandemic prices for Afar is ETB 6,358,982,090 or USD 141,460,007. For Somali it is ETB 28,442,166,419 or USD 632,715,901¹⁸

Table C1b. Estimated costs of expanding classrooms and sanitation facilities for OOSC 4–6-year-old students in Afar and Somali (20% GER target)

Region	Not attending pre-primary	Enrolment target (20%)	Additional classrooms and toilets needed	Unit Cost (Birr)	Total Cost (Birr)	Total cost (USD)
Afar	137,493	32,752	819	3,205,425	2,625,243,075	\$58,400,370
Somali	567,793	113,559	2,839	3,205,425	9,100,201,575	\$202,440,354

*Assume 40 students per 1 classroom

** The total cost in pre-pandemic prices for Afar is ETB 1,957,161,342 or USD 43,9538,424. For Somali it is ETB 6,784,348,048 or USD 150,922,571.¹⁹

¹⁷ 2015 prices from IMaCS strategy proposal have been adjusted for inflation using a multiplier of 2.18468707 based on the CPI of July 2015=94.43 and CPI July 2021=226.3. Source: IMF and Ethiopia's Central Statistics Agency.

¹⁸ Inflation has been very high in the past year due COVID-19 and other crises. We expect price levels to normalise once the situation stabilizes further. We therefore also provide the costs in pre-pandemic prices using the CPI of April 2020 (CPI=153.8).

¹⁹ Inflation has been very high in the past year due COVID-19 and other crises. We expect price levels to normalise once the situation stabilizes further. We therefore also provide the costs in pre-pandemic prices using the CPI of April 2020 (CPI=153.8).

Table C1c. Estimated costs of labour (recurrent) for expansion of pre-primary education in Afar and Somali (80% GER target)

Region	Personnel	Number	Salary per annum (Birr) ²⁰	Total salary for 1 year (Birr)	Total salary for 1 year (USD)
Afar	Teachers	2,661	35,946	95,652,306	\$2,127,853
	Teaching Assistants	2,661	23,964	63,768,204	\$1,418,568
Sub-Total				159,420,510	\$3,546,421
Somali	Teachers	11,902	35,946	427,829,292	\$9,517,362
	Teaching Assistants	11,902	23,964	285,219,528	\$6,344,908
Sub-Total				713,048,820	\$15,862,270

*Assume 1 teacher and 1 teaching assistant per classroom.

** The total cost of labour in pre-pandemic prices for Afar is ETB 118,850,578 or USD 2,643,914. For Somali it is ETB 531,589,474 or USD 11,825,580.²¹

Table C1d. Estimated costs of labour (recurrent) for expansion of pre-primary Education in Afar and Somali (20% GER target)

Region	Personnel	Number	Salary per annum (Birr) ²²	Total salary for 1 year (Birr)	Total salary for 1 year (USD)
Afar	Teachers	819	35,946	29,439,774	\$654,908
	Teaching Assistants	819	23,964	19,626,516	\$436,606
Sub-Total				49,066,290	\$1,091,514
Somali	Teachers	2,839	35,946	102,050,694	\$2,270,189
	Teaching Assistants	2,839	23,964	68,033,796	\$1,513,459
Sub-Total				170,084,490	\$3,783,648

*Assume 1 teacher and 1 teaching assistant per classroom.

²⁰ Salary figures from 2015 IMaCS report (ETB 15,000). These figures assume that wages have tracked with inflation rates.

²¹ Inflation has been very high in the past year due COVID-19 and other crises. We expect price levels to normalise once the situation stabilizes further. We therefore also provide the costs in pre-pandemic prices using the CPI of April 2020 (CPI=153.8).

²² Salary figures from the 2015 IMaCS report (ETB 15,000). These figures assume that wages have tracked with inflation rates.

** The total cost of labour in pre-pandemic prices for Afar is ETB 36,579,715 or USD 813,741. For Somali it is ETB 126,800,749 or USD 2,820,771.²³

Table C2a. Secondary school standard requirements by the Ministry of Education

Item	Minimum requirement
Classrooms	4
Laboratories	3
Toilets for staff and other workers	2
Toilets for students	16
First Aid room	1
Store	1
Library/reading room	1
Book Store	1
Cleaners' room	1
ICT room	3
Technical drawing room	1
Education Material development room	2
Students per classroom	40
Students per teacher	40
Support staff	21 per school
Student –textbook ratio	1:1

Source: Ministry of Education

²³ Inflation has been very high in the past year due COVID-19 and other crises. We expect price levels to normalise once the situation stabilizes further. We therefore also provide the costs in pre-pandemic prices using the CPI of April 2020 (CPI=153.8).

Table C2b. Number of schools required for OOSC of lower secondary school age

	Number of lower secondary schools ²⁴ (government schools)	Average number of students per government lower secondary school	Number of OOSC in lower secondary age ²⁵	Number of classrooms required for OOSC (at 40 students per class)	Number of schools required for OOSC (at 8 classrooms per school)
National	3,166	698	2,741,611	68,540	8,568
Addis Ababa	69	1139	26,686	667	83
Afar	48	285	62,598	1,565	196
Amhara	551	1088	426,984	10,675	1,334
Benishangul Gumuz	89	360	24,132	603	75
Dire Dawa	11	822	10,675	267	33
Gambela	65	346	65,157	1,629	204
Harari	8	730	3,029	76	9
Oromia	1,107	689	1,245,245	31,131	3,891
SNNP	770	611	621,886	15,547	1,943
Somali	211	250	141,614	3,540	443
Tigray	237	688	113,605	2,840	355

Table C2c. Costs for additional classrooms and schools

	Number of schools required for OOSC	20% of proposed schools	Cost per school (Birr) ²⁶	Total costs in Birr for 20% of schools	Total costs in USD for 20% of schools ²⁷
National	8568	1714	9,648,670	16,533,063,140*	367,789,563*
Addis Ababa	83	17	9,648,670	160,927,762	3,579,951
Afar	196	39	9,648,670	377,492,170	8,397,578

²⁴ Number of schools and average number of students per school are based on EMIS 2020 enrolment data.

²⁵ The number of OOSC in lower secondary age is based on the estimation of the Luminos study (2021).

²⁶ 2015 prices from IMaCS strategy proposal have been adjusted for inflation using a multiplier of 2.18468707 based on the CPI of July 2015=94.43 and CPI July 2021=226.3. Source: IMF and Ethiopia's Central Statistics Agency.

²⁷ Exchange rate 1 ETB = 0.0222457 USD.

	Number of schools required for OOSC	20% of proposed schools	Cost per school (Birr) ²⁶	Total costs in Birr for 20% of schools	Total costs in USD for 20% of schools ²⁷
Amhara	1334	267	9,648,670	2,574,892,438	57,280,285
Benishangul Gumuz	75	15	9,648,670	145,526,072	3,237,329
Dire Dawa	33	7	9,648,670	64,374,723	1,432,061
Gambela	204	41	9,648,670	392,924,013	8,740,870
Harari	9	2	9,648,670	18,266,139	406,343
Oromia	3891	778	9,648,670	7,509,349,142	167,050,728
SNNP	1943	389	9,648,670	3,750,233,167	83,426,562
Somali	443	89	9,648,670	853,991,760	18,997,644
Tigray	355	71	9,648,670	685,085,754	15,240,212

* The total cost in pre-pandemic prices is ETB 12,325,667,043 or USD 274,193.091²⁸.

Table C2d. Additional staff requirements for new Secondary Schools

	Realization of 20% of proposed schools	Additional teachers needed (for schools with 8 classrooms at 20% realization)	Additional support staff needed (at a minimum of 21 per school)
National	1714	13,708	35,984
Addis Ababa	17	133	350
Afar	39	313	822
Amhara	267	2,135	5,604
Benishangul Gumuz	15	121	317
Dire Dawa	7	53	140
Gambela	41	326	855
Harari	2	15	40
Oromia	778	6,226	16,344
SNNP	389	3,109	8,162
Somali	89	708	1,859

²⁸ Inflation has been very high in the past year due COVID-19 and other crises. We expect price levels to normalise once the situation stabilizes further. We therefore also provide the costs in pre-pandemic prices using the CPI of April 2020 (CPI=153.8).

	Realization of 20% of proposed schools	Additional teachers needed (for schools with 8 classrooms at 20% realization)	Additional support staff needed (at a minimum of 21 per school)
Tigray	71	568	1,491

Table C3a. Cost estimation for national school feeding programme 2021, Grades 1 to 4

Region	Food insecurity ²⁹	Number of children Grade 1–4 ³⁰	Number of days covered with hot meals	Cost of hot meal per child (Birr) ³¹	Number of days covered with high energy bars	Cost of bar per child (Birr)	Total cost of school feeding (Birr) – Grade 1–4	Total cost of school feeding (USD) – Grade 1–4 ³²
National	17.20%	11757082	108	11.12	72	44.46	51,755,615,531	1,151,339,896
Addis Ababa	7.3%	173264	108	11.12	72	44.46	762,721,989	16,967,285
Afar	5.1%	102447	108	11.12	72	44.46	450,979,890	10,032,363
Amhara	12.0%	2165244	108	11.12	72	44.46	9,531,577,308	212,036,609
Benishangul Gumuz	9.0%	146669	108	11.12	72	44.46	645,648,672	14,362,907
Dire Dawa	17.2%	38182	108	11.12	72	44.46	168,080,219	3,739,062
Gambela	9.4%	63665	108	11.12	72	44.46	280,258,423	6,234,545
Harar	13.1%	29734	108	11.12	72	44.46	130,891,447	2,911,772
Oromia	20.8%	5259288	108	11.12	72	44.46	23,151,806,519	515,028,142
SNNP	20.7%	2704803	108	11.12	72	44.46	11,906,759,190	264,874,193
Somali	23.9%	524110	108	11.12	72	44.46	2,307,174,149	51,324,704
Tigray	14.1%	549676	108	11.12	72	44.46	2,419,717,726	53,828,315

²⁹ Central Statistical Agency, *Socio-Economic Survey (ESS) 2018–2019, Survey Report, 2020*.

³⁰ Based on EMIS 2020 (2012 E.C.) enrolment figures

³¹ Unit prices for meals and bars have been updated for inflation using a multiplier of 1.3272727 based on the CPI from May 2020 of 170.5 and the CPI from July 2020 of 226.3.

³² Exchange rate 1 ETB = 0.0222457 USD

Table C3b. Cost estimation for national school feeding programme 2021, Grades 1 to 8

Region	Food insecurity	Number of children Grade 1–8 ³³	Cost of hot meal per child per school year (Birr)	Cost of bar per child per school year (Birr)	Total cost of school feeding (Birr) – Grade 1–8	Total cost of school feeding (USD) – Grade 1–8
National	17.20%	19057659	1201	3201	83,893,339,531	1,866,266,063
Addis Ababa	7.3%	348851	1201	3201	1,535,670,010	34,162,054
Afar	5.1%	147215	1201	3201	648,052,207	14,416,375
Amhara	12.0%	4047991	1201	3201	17,819,580,221	396,409,036
Benishangul Gumuz	9.0%	243685	1201	3201	1,072,720,865	23,863,427
Dire Dawa	17.2%	62246	1201	3201	274,011,872	6,095,586
Gambela	9.4%	114932	1201	3201	505,939,859	11,254,986
Harar	13.1%	46997	1201	3201	206,884,554	4,602,292
Oromia	20.8%	7914821	1201	3201	34,841,675,228	775,077,455
SNNP	20.7%	4337247	1201	3201	19,092,908,274	424,735,110
Somali	23.9%	738949	1201	3201	3,252,912,614	72,363,318
Tigray	14.1%	1054725	1201	3201	4,642,983,828	103,286,425

³³ Based on EMIS 2020 (2012 E.C.) enrolment figures

Table C4a. Draft estimated costs for LMI survey in one region

Roles	Rate (USD)	N	Days: Data Collection	Price USD	Price Birr
Survey Expert	300	1	15	4500	202286
LMI Expert	300	1	15	4500	202286
Quant Analyst	300	1	15	4500	202286
Field Coordinator	200	1	20	4000	179810
Translators	100	4	4	1600	71924
Interviewers	100	10	20	20000	899050
Supervisors	115	2	20	4600	206782
Other Direct Costs					0
<i>Tablets</i>	200	10		2000	89905
<i>Airtime</i>	35	180		6300	283201
<i>Per diem</i>	67	180		12060	542127
<i>Vehicle Rental</i>	114	15		1710	76869
<i>Stationary, printing, etc.</i>	10	20		200	8991
TOTAL PRICE PER REGION				65970	2965517

Assumptions: 5 days training and field practice; 5 days tools development; 2 data collection teams per region; 9 days for data collection; 5 people per field team; 1 supervisor per field team; 4 travel days; 2 days discussion with local leaders as needed (15 total field days); 360 businesses; 10 days for report writing and analysis

Table C4b. Draft estimated costs for development of employment-focused curriculum

Item	Number	Rate (Birr)	Number	Cost Birr	Cost USD
Review and revision (including Framework, translation, standards, learning outcomes, scope)	5 experts	13000	10 days each, incl. training prep	650000	14444
ToT	2 experts	13000	2 days each	559960	12457
	10 trainers	4000	2 days each	80000	1780
<i>Per diem</i>	12	1500	2 days each	36000	801
Pilot Training	10 trainers	4,000	2 days each	80000	1780
Per diem	200 participants	1,500	2 days each	600000	13347
Pilot	<i>Cost of teacher salaries</i>			0	0
Revision	5 experts	13000	5 days each	325000	7230
Rollout Training (refresher)	10 trainers	4,000	2 days each	80000	1780
Per diem	200 participants	1,500	2 days each	600000	13347
Supplies and communications			Lump sum	90000	2002
Total				3100960	68983

Table C5. Draft Estimated Costs for Strengthening EMIS in Oromia

Item	Number	Daily Rate (Birr)	Number (days)	Cost Birr	Cost USD
Review, Revision, Consultation	5 experts	13000	10	650000	14460
Personnel Salaries (Regional and local)					0
Data collectors	110	5000	248	136400000	3034313
Data analysts	44	10,000	248	109120000	2427451
Activities (Regional and local)					0
Training (collectors)	110	5000	2	1100000	24470
Training (analysts)	44	10,000	2	1100000	24470
Per diem	154	1,500	154	880000	19576
Supplies and communications			Lump sum	90000	2002
Total				249340000	5546743

Assumptions: 248 FTE working days for analysts; 5 data collectors per zone; 2 analysts per zone; costs for analysts and collectors come from average of Ethiopian research firm; 22 zones in Oromia.

Table C6. Draft estimated costs for provision and repair of water supply schemes in selected primary schools

Region	Activity	Cost per water scheme (Birr) ³⁴	Number of units (one per school)	Total (Birr) ³⁵	Total (USD)
Afar	Construction of tube well	349,550	139	48,587,450	1,080,862
Gambela*	Rehabilitation of piped water	N/A	73	N/A	N/A
Oromia**	Construction of tube well	349,550	1,384	483,777,200	10,046,488
Somali	Construction of tube well	349,550	1,700	594,235,000	13,219,174
SNNP	Construction of tube well	349,550	2,578	901,139,900	20,046,488
Total				2,027,739,550	45,108,486

Note. The total cost in pre-pandemic prices is ETB 1,511,712,761 or USD 33,629,108.³⁶ Maintenance costs need to be budgeted for and incorporated in the costed strategy with input from stakeholders.

Assumptions and other information:

* We assume 50 per cent of existing piped water systems in schools in Gambela need rehabilitation.

** Although an estimated 82 per cent of primary schools in Oromia have access to improved water sources and 80 per cent have piped water, we propose exploring the construction and operationalisation of tube wells in drought hotspots. We assume 10 per cent of schools in Oromia may be located in very dry areas.

³⁴ 2015 prices from IMaCS strategy document have been adjusted for inflation using a multiplier of 2.18468707 based on the CPI of July 2015=94.43 and CPI July 2021=226.3. Source: IMF and Ethiopia's Central Statistics Agency.

³⁵ Exchange rate 1 ETB = 0.0222457 USD

³⁶ Inflation has been very high in the past year due COVID-19 and other crises. We expect price levels to normalise once the situation stabilizes further. We therefore also provide the costs in pre-pandemic prices using the CPI of April 2020 (CPI=153.8).

