



# Out-of-School Children in Ethiopia:

## Impacts of Climate change and Political Instability

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# **Out-of-School Children in Ethiopia: Impacts of Climate Change and Political Instability**

*Tesfaye Semela and Logan Cochrane*

## ***Abstract***

Education is a human right and all children are entitled quality and inclusive education no matter where they are. However, more than 30 million children and adolescents in sub-Saharan Africa are being denied this right, while the underlying reasons are not sufficiently investigated. The present article goes beyond depicting out-of-school rates by addressing the practical observations of educational practitioners and researchers with hands-on experience. The study is based on a reanalysis of education statistics, and data from government reports, a scoping literature review, and semi-structured interviews and follow-up survey with education experts and educational researchers. The findings show that climate-induced environmental emergencies, armed conflict, and household food insecurity are the most important factors to addressing educational opportunities for all children and adolescents in Ethiopia. Finally, the study forwards a short- and long-term policy suggestion that helps to ensure the educational rights of children and adolescents in Ethiopia and beyond.

**Keywords:** Climate Change, Child Education, Conflict, Environmental Stressors. Food Insecurity Out-Of-School-Children, Ethiopia.

## **Introduction**

According to UNESCO-UIS (2020), the region of the world with the highest out-of-school rates, is sub-Saharan Africa, and this is the case for all age groups. The region inhabits more than half of the population of out of school children of primary school age (32 million children out of 59 million children globally; 54%) and almost half of children and youth in the lower secondary school level (28 million out of 62 million global total; 45%). Ethiopia has one of the highest rates of children and youth out of school, despite government efforts to have a more inclusive education system and meet the Global Education for All (EFA) as well as The Sustainable Development Goals (SDGs) Agenda 2030 (MoE, 2022, p.2; Yamada, 2007).

The Ethiopian general education system encompasses pre-primary, primary, and secondary education. The pre-primary level enrolls children within the age bracket of 4-6 years; the primary level caters to children between 7-14 years of age, while secondary education (grades 9-12) meant for adolescents aged 15-18 years. Building upon the Roadmap Study (2018) and a new education and training policy that followed (FDRE, 2023), the system is structured with pre-primary (three years), primary (six years, grades 1-6), middle (2 years, grades 7 and 8), and secondary (4 years, grades 9-12). To achieve the desired goals of expanding access and quality, the government has introduced what came to be known as the Education Sector Development Programs (ESDP) since mid-1990s. It is a five year program that has been under implementation over the past three decades. The ESDPs had two major tools to achieve the declared goals. These include the General Education Quality Improvement Package (GEQIP) and the School Improvement Program (SIP) (MoE, 2022, p.2). Notwithstanding the efforts, achieving the expected level of progress as planned in ESDPs was unfortunately far from successful especially in minimizing dropout and maintaining quality of learning. Specifically, despite the rapid expansion of school enrollment, significant challenges persist in terms of absenteeism, dropout, and low progression from primary to next level of education (Woldehanna, Endale, Hamory, & Baird, 2021). These challenges, according to Woldehanna et al., (2021), will make it difficult for Ethiopia to achieve the aspirations of the Sustainable Development Goals, and specifically those in Goal 4 on education (United Nations, 2019).

While the underlying reasons for the above-noted challenges are diverse, based on available evidence, this paper highlights three in particular: climate stressors, conflict and food insecurity. Apparently, with the exception of the climate-induced impacts, the other two are often results from lack of political stability and power struggle. The Ethiopian Education Cluster (2023: 4), in this connection notes “conflict in the Northern part of the country, violence in other parts, and natural hazards such as floods but most notably the drought in the Southern part of the country make the main drivers of needs” (p.4). As a result, according to the study, as of November 2022, a total of 46,361 schools were closed, out of which 9,385 schools were damaged and relatedly 1,067,386 school age children are internally displaced. Overall, during the two-year conflict that came to an end following a peace agreement in November 2022 , 3,307,931 school age children were reported to be out of school because of emergencies (p.3). The report went on to state that the positive prospect of the peace agreement that ended the hostilities in Northern Ethiopia in November 2022 opened up the opportunity to bring back children to school after three years had elapsed since the onset of the conflict. The report also notes environmental emergencies, mainly floods and droughts, affecting 6.8 million people in the regions of Oromia, SNNP, Somali and Southwest, amongst others. The disruption of agricultural systems, both due to conflict and abnormal rainfall, result in food insecurity, which the country has struggled with for decades (Adem et al, 2023), and which is a primary reason for disrupted education (Abafita & Kim, 2014; Cochrane, 2021). Upon this basis of the existing socio-economic, political and security as well as climate induced challenges that we explore extent and magnitude of out of school children and adolescents and how professionals and educational practitioners in the education sector assess the relative impact of the array of factors on child and adolescent school enrollment and dropout. The paper contributes to the educational development literature as it addresses factors that have not been explored in understanding the underlying reasons for school enrollment and dropout which results in high OOSC rates in the context of sub-Saharan Africa.

This article is structured as follows. The remainder of section 1 one discusses the conceptualizations and determinants of school participation at global and regional levels

followed by section two which describes the study methodology. Section 3 presents the key findings divided into two three sub-sections, the first part presents the findings on the state and magnitude of OOSC in Ethiopia based on administrative data while the second part reports the results of the scoping review. Part three discusses the results of the semi-structured interview results. Finally, section five presents the conclusion and policy implications.

### **1.1. National Context**

Ethiopia is the second most populous nation in sub-Saharan Africa (~126 million) and is a home to 80 ethno-linguistic groups with diverse cultural and religious traditions. Geographically, Ethiopia is located in the strategic Horn of Africa region which is for its huge part of its modern history, known to have undergone a series of political unrest and armed conflicts. Despite these political and security predicaments, however, the country has managed to survive and achieve continuous economic growth over the past two and half decades. Nonetheless, political instability and armed violence, as well as natural calamities have become serious threats to the country's ambition to join middle income countries by 2030. As the other sectors, these challenges are resonating with the education sector. In particular, the reform process which started in earnest with coming to power of the incumbent prime minister, Ethiopia has come under unprecedented pressure from the defunct TPLF and other armed political forces such as the armed faction of OLF, which calls itself the "Oromo Liberation Army" (OLA) (or widely known as Shene). As if that is not enough, most recently, the Amhara armed opposition group called Fano is fighting against the federal government. Added to these, Ethiopia in spite of a huge arable land and livestock resources has not yet been fully self-sufficient and the problem of household food insecurity is highly prevalent (e.g., Belachew, Lindstrom, Gebremariam, Lachat & Kolster, 2011). Periodic draught, flooding, and crop failure are frequent. It is against this backdrop that the present study set out to examine the extent and magnitude of out of school children (OOSC) in Ethiopia. Apart from providing quantitative description of what the state of educational access among children and adolescents (age 4-16) in Ethiopia, the study will explore the most current obstacles that are impacting child rights to education.

### ***Evidence of war, conflict and climate change***

There is compelling empirical evidence that conflict and climate induced environmental shocks have impacted the education of children and youth in Ethiopia. With regard to armed conflict, recent studies (e.g., Belay et al., 2023) emphasize this, such as the consequences of the war in northern Ethiopia and the resulting damage and destruction of schools. Insecurity as well as infrastructure loss have reduced education accessibility and reduced the safety of educational environments. In this regard, Belay *et al.*, (2023) reported that a majority (83%) viewed that the war had a direct impact on damage and destruction to educational infrastructure (merging the high and very high responses). Furthermore, an onsite inventory of randomly selected schools indicated a high level of damage (57% of schools) and destruction (43%; Belay et al, 2023). This level of destruction was confirmed by the Minister of Education (2 Feb 2023), who stated that due to the conflict more than 3,300 educational institutions were destroyed (ENA, 2023). The impact of war and armed violence is not confined to northern Ethiopia. Regions in the rest of the country are not spared from mass movement of people involving school age children and youth in Benishangul, Oromia, and the SNNPR. For instance, in 2021 a UNICEF study indicated that children became internally displaced due to insecurity caused by insecurity and armed conflict in Amhara and Benishangul and other neighboring regions (Bezuwork, 2021). Similarly, in Oromia the attack by OLA (commonly referred to as, *Shene'*) triggered a huge displacement of people from rural villages leaving young children without education. In SNNPR too, the ethnic-based conflict between Western-Gujji and Gedeo communities was responsible for the displacement of 818,250 people that left tens of hundreds of children out of school (UN-OCHA, 2018).

Limited access to education is one impact of conflict; there are also longer-term consequences. For example, Weldegeezi (2023) examined the long terms effects of the Ethio-Eritrean conflict based on Young Lives longitudinal study in four developing countries, which included Ethiopia. The findings show that when children and youth experience conflict the likelihood of repeating grades as well as dropout increase. There were also gendered impacts, with the likelihood of dropping out of school for male students being higher than that of their female peers.

Similarly, apart from reports by the Ministry of Education (MoE, 2022) and other stakeholders (e.g., Education Cluster Strategy, 2023) there is growing evidence that climate induced environmental shocks are another critical variable that impacts on educational access for children and youth in Ethiopia (e.g., Koohi-Kamali & Roy, 2021; Berhane, Abay, & Woldehanna, 2015). These impacts may be short-term in duration (e.g., flooding) or long-term in duration (e.g., water stress forcing relocation; Cochrane and Cafer, 2018, 2020). In this vein, a longitudinal study conducted in Ethiopia and India establish the empirical link between climate-induced environmental shocks and child labor (Koohi-Kamali & Roy, 2021), finding that in the Ethiopian context an increasing number of children terminate school when climate related emergencies such as drought and floods occur. In a similar multi-country study, Tafere and Woldehanna (2012) find that climate-induced environmental shocks are not limited to preventing child educational participation, which manifests through increasing non-enrollment or dropout out rates, but that these experiences leave a lasting consequence in the form of long-term cognitive achievement deficits for children exposed to climate-induced shocks. Specifically, Woldehanna, Behrman, and Arayaasse (2017) reported to have found significantly inferior performance in vocabulary tests among children who were exposed to drought and price inflation as compared to children who are not exposed. The short-term effect of household food insecurity resulting from environmental shock such as drought are quickly find expression in the form of school dropout (Porter & Kath, 2022). Furthermore, these climate stressor events often exacerbate food insecurity and child nutritional status is significantly related not only to cognitive achievement (e.g., Woldehanna, Behrman, & Arayasse, 2017) but more broadly with child wellbeing (Tafere & Woldehanna, 2012).

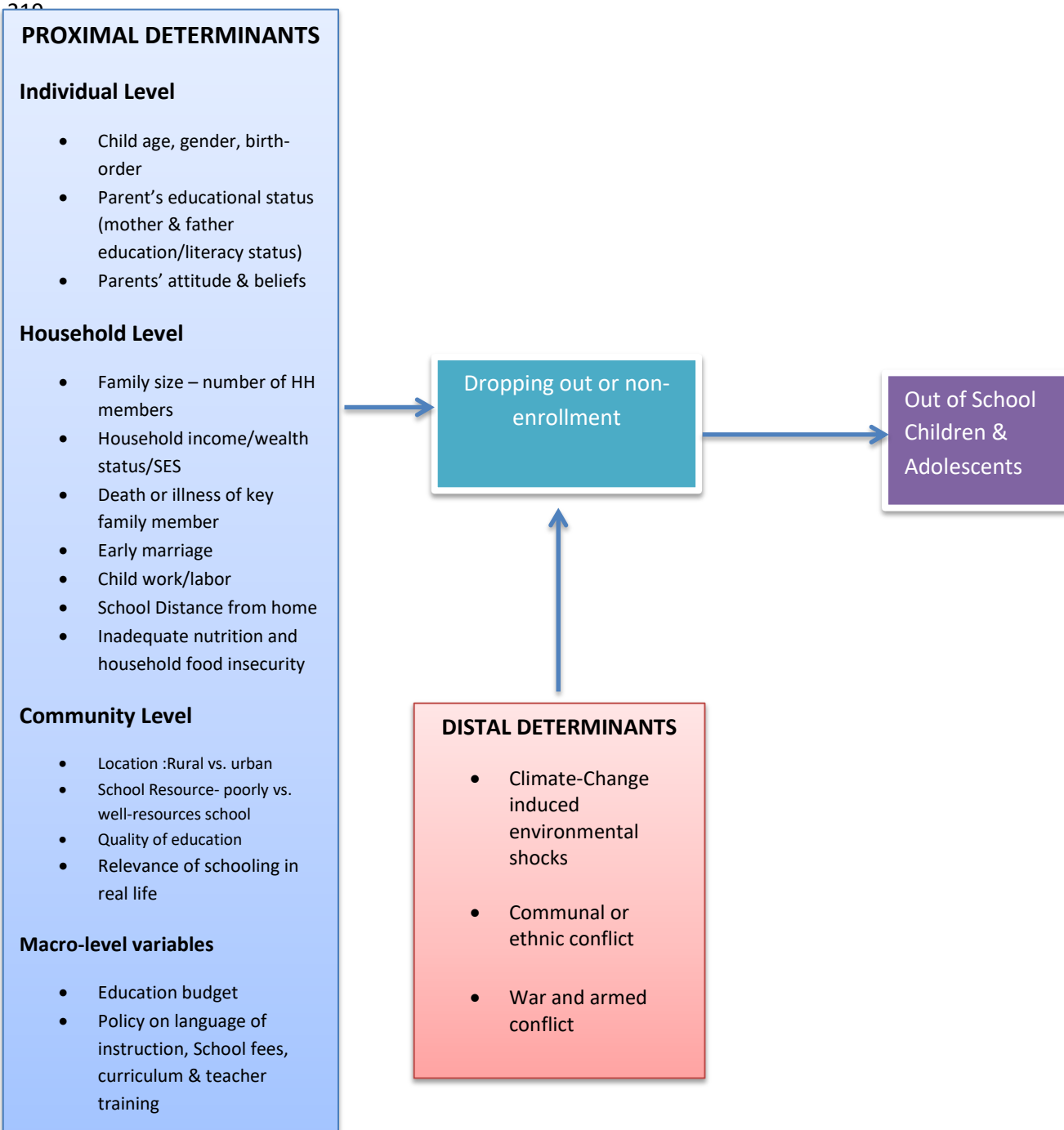
Taken together, the conceptualization of determinants of child schooling depends on the disciplinary perspective the issue is explored. For example, education or human resource economists prefer to analyze the magnitude of the array of variables by categorizing them into clusters; namely, individual-level, household-level, community-level and national (macro) –level determinants (e.g., Mani & Huddinolt & Strauss, 2013). Individual level determinants of child schooling mainly focus on demographic variables (e.g., age, gender, birth order, parental education and employment status; see: Semela & Demamu; 2001; Semela, 2009), parents

attitudes towards education (e.g., Kima et al., 2022; Sharada, 2011; Rose & Al Samari, 2001) household level determinants encompasses early marriage, family size, household income, household nutrition and food security (e.g., Abafita & Kim, 2014), child involvement in labor activities (farming, non-farm activities), and death or illness of a parent or important member of the family (Woldehanna & Hagos, 2012); community level determinants include school distance, and residential location (urban vs. rural), and macro-level factors encompasses government policy on school fees, language of education (e.g., Seid, 2016; Yamada, 2007) , and school feeding program (e.g., Belachew *et al.*, 2011; Zenebe *et al.*, 2018 ). Recently, reports show that there is compelling evidence that new determinants are impacting child school enrollment and dropout which in turn leading to high rates of OOSC in Ethiopian context. This includes climate induced environmental emergencies (e.g., Porter & Ford, 2022; Nguyen & Pham, 2021; Koohi-Kamali & Ray, 2021) and war and armed violence (e.g., Belay et al, 2023; Woldeegze, 2023).

For the sake of convenience, however, individual, household, community, and macro (national) level variables whose empirical link to child enrollment and dropout are widely investigated in extant literature, given empirical attention are classified as *proximal* determinants. On the other hand, the second set of factors that are not widely investigated, but increasingly becoming formidable challenge in terms of undermining child rights to education, such as climate-induced environmental stressors, household food insecurity, and civil war or armed conflict, are referred to as *distal* determinants of child schooling (See: Fig 1).



218 **Fig. 1: Determinants of schooling and dropout**



## **2. Out of School Children: Conceptual Clarification**

In the present study, the notion of out-of-school-children (OOSC) is understood and defined as children and adolescents who are either un-enrolled at the beginning of the year or dropped out having attended school for some time without completing the school year. Nonetheless, at the global level, determining the size of out-of-school children and adolescents at a given time point has been marred by methodological pitfalls and estimation inaccuracies (see, for example, UNESCO-UIS, 2017). However, determining out of school rates as conceptualized here has been facing a problem of accurate quantification even more difficult for developing countries where school systems are insufficiently organized and staffed to monitor the level of educational participation. Ethiopia is by no means an exception to these measurement pitfalls owing to poor documentation school dropouts and non-enrollment rates (see in MoE, 2022).

The other issue which complicates the problem is the use of old census data to determine school participation and OOSC rates. This relates to the fact that the most recent available census data is over a decade old as since Ethiopia had the last population and housing census in 2007 (CSA, 2007; 2021). Compensating this shortfall led to combining the census data with other data sources such as household surveys including the Welfare Monitoring Survey, Demographic and Health Survey (DHS) as well as administrative data obtained from Education Statistics Annual Abstract published by the Ministry of Education. Thus, the OOSC rates to be reported in this study are determined by averaging the values obtained based on the data from the three sources. While these limitations are apparent, the estimates based on the three data sources believed to offer better estimates than using any one of the data sources.

## **3. Method and Data**

The present study employed multiple sources to generate data. These included administrative data, mainly obtained from *Education Statistics Annual Abstracts* (MoE, 2012-2020), and household surveys, and research reports. These sources were used to assess the magnitude of OOSC in Ethiopia. The second data source was a scoping review of empirical literature that assessed demand for schooling, the factors that determine school participation, dropout and in

the general education sub-sector. This scoping review meant to unravel what factors are responsible for children and adolescents to terminate their education. Thirdly, interviews were conducted with 12 lecturers and educational researchers and 9 experts (practitioners) from wereda (district) and regional education offices to find out the factors resulting in OOSC. In addition, based on the scoping literature review and the interview data, the respondents were requested to rank order a list of factors (or determinants) in order of priority considering the current realities using their actual experience as educational experts and educational researchers in their respective regions. Similarly, the university-based researchers were also asked do the same based-on their on-site observations and findings. The ranking ranged from 1 (most important) to 6 (least important).

### **3.1. Data analysis**

Apart from the scoping review, the study employed quantitative and qualitative data analysis approaches. The quantitative data was essentially based on administrative data obtained from the Ministry of Education, and primarily sourced through a ranking of determinants or factors of dropout or non-enrollment of children into school. The administrative data, which focuses on enrollment, dropout and out of school rates, were analyzed to find age and gender differences by computing Odds Ratios (ORs) and transforming gender gap (female-to- male ratio) into log functions for ease of interpretation. In case of rank-ordered data, calculating the mean ranks was done using Friedman Test, which is a Non-Parametric equivalent of repeated measures ANOVA. These are (a) the participants should be on three or more different occasions; (b) the participants should be a random sample from the relevant population; and (c) the dependent variable should be measured at the ordinal or continuous level. Similar to repeat measures ANOVA, statistically significant Friedman Test, F-value were subjected to *post-hoc* paired comparisons using Wilcoxon Signed Ranks Test (Corder & Foreman, 2014).

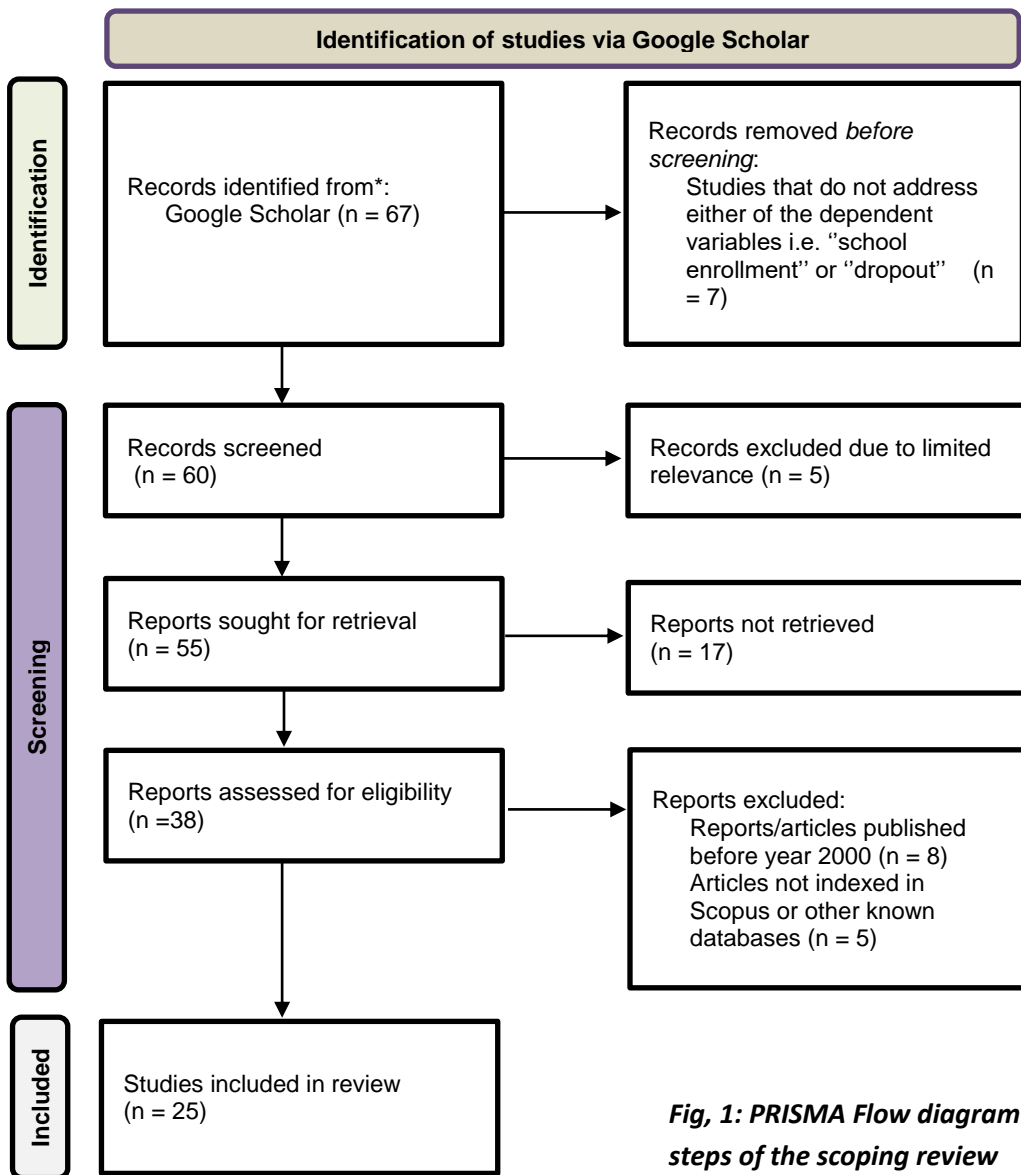
### **3.3. Qualitative data**

Qualitative data was gathered using semi-structured interviews. The respondents were selected based on their practical professional experience as experts in education offices at federal,

regional and district levels and experienced researchers in the field of education and education policy in Ethiopian context. The main purpose was to get the respondents' perspectives regarding the reasons behind non-enrollment and dropout among children and adolescents at primary and lower secondary education in Ethiopia. Particularly, they were asked to identify the specific factors that are hindering the effort to ensure the rights of educational access for children and adolescents in view of Education for All (EFA) Agenda 2030. The interviews were conducted via telephone and recorded with prior consent from the respondents. The interview was made in Amharic Language, a working language in Ethiopia. The audio data was then transcribed translated into English. The method used to interpret the textual data was narrative analysis.

### **3.3. Scoping Review**

The scoping literature review intended to find out the underlying reasons for Ethiopian children and adolescents/youth are either un-enrolled or dropout of school at some point in primary or middle school or lower secondary school. Key words used to screen publications include factors affecting school dropping out; determinants of households' demand for education; un-enrolled students; out-of-school children, vulnerable children; Ethiopia. Accordingly, we identified 67 published articles and research reports. Of these, 55 were included following the first screening. However, only 38 studies were retrieved after dropping 17 for lack of face validity. In the second step, (1) articles published in none Scopus indexed journals, and; (2) Scopus indexed articles yet, published prior to year 2000 were excluded from the scoping review due to limited their relevance. However, publications that are based on Young Lives Longitudinal Study as well as Research Reports published by the World Bank were included. The PRISMA diagram below illustrates the identification; screening and selection of the eligible articles and research reports (see Fig. 1).



**Fig. 1: PRISMA Flow diagram depicting steps of the scoping review**

Finally, 25 journal articles and research reports had been selected for scoping review.

As indicated, 25 publications of which 23 journal articles and two research reports critically reviewed in view of the research questions. Following critical review of the selected studies, it became evident that none of them fall neatly fall exclusively under a single theme. This is because, majority (about 16) of the publications are based on household survey data tapping on variables related to demographic and socio-economic factors. Despite the similarities across

the studies, the key research questions stated in the respective studies were used to determine the themes to structure our analysis.

#### **4. Findings**

This section is divided into three parts. The first part presents the findings describing the extent and magnitude of out of school rates in Ethiopia based on most recent available educational statistics and official reports. Furthermore, this part presents analysis of the impact of age as well as gender and regional differentials. In part two, the results of scoping review are present. Part three presents the results of primary data obtained from educational practitioners and university-based researchers on the underlying reasons for enrollment and dropout among children and youth in Ethiopia.

##### **4.1. Extent and magnitude of out-of-school children and youth**

The extent and magnitude of OOSC at national level is assessed by classifying the children and adolescents (between the ages of 4-16 year old) into three age-related categories. The first category includes children within the age bracket of 4-6 years (i.e., pre-primary school age group). The second category constitutes primary school age cohort extending between 7-12 years; and the third category constitutes the lower secondary adolescents. The reanalysis of secondary administrative data suggests that at the pre-primary school age group as of the 2019/2020 school year more than 6 million children were out-of-school. A close inspection of the data further suggests considerable regional disparities, disfavoring pastoralist populations, namely in the Afar and Somali regions with respectively 84% and 88.3% of their pre-school age children out of the educational system. Both regions significantly depart (by nearly 20%) from the national average which stood at 63.5% (see Table 1).

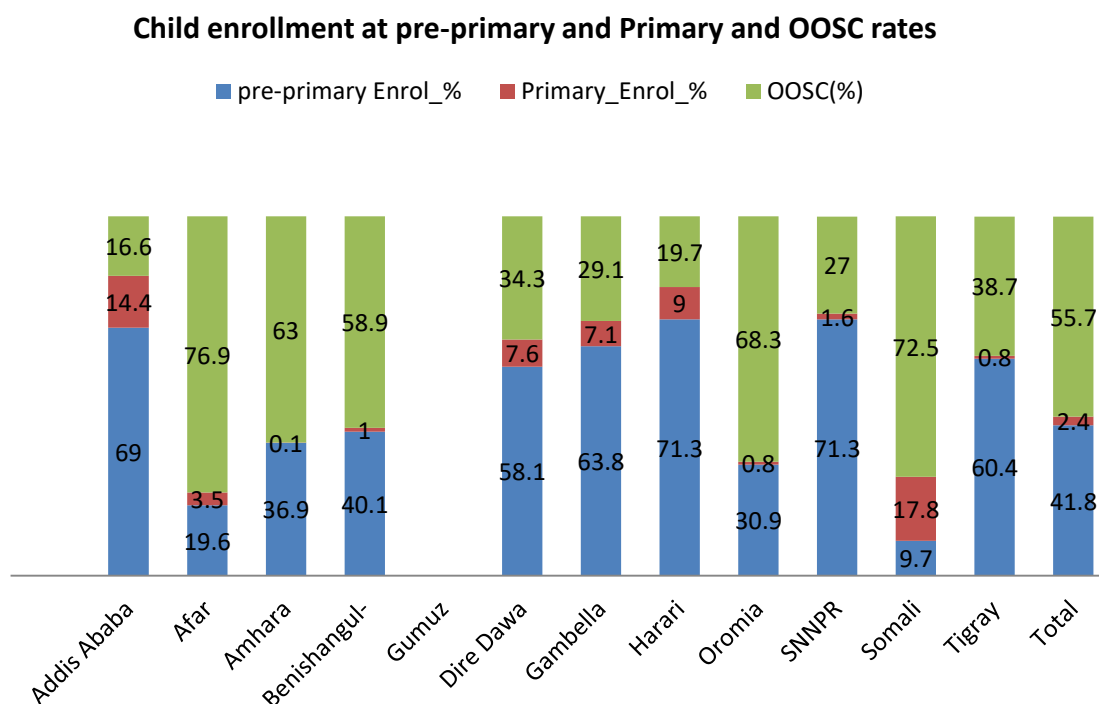
**Table 1: Pre-primary and primary enrollment rates, and share of out-of-school children**

Region	Population (4-6 year-Olds)	Enrolled_Pre-primary	%	Enrolled_Primary	%	OOSC*	OOSC (%)
Afar	163,762	24,407	14.9	1,862	1.1	137,493	84
Amhara	2,007,046	701,423	34.9	851	0	1,304,772	65
Benishangul-Gumuz	108,704	26,969	24.8	344	0.3	81,391	74.9
Dire Dawa	34,726	15,319	44.1	851	2.5	18,556	53.4
Gambella	39,189	21,071	53.8	907	2.3	17,211	43.9
Harari	19,837	14,045	70.8	587	3	5,205	26.2
Oromia	3,792,005	1,015,743	26.8	10,196	0.30%	2,766,066	72.9
SNNPR	1,976,939	1,188,034	60.1	10,510	0.5	778,395	39.4
Somali	643,374	38,580	6	37,001	5.8	567,793	88.3
Tigray	480,738	132,588	27.6	1,310	0.3	346,840	72.1
<b>Total</b>	<b>9,519,629</b>	<b>3,400,683</b>	<b>35.7</b>	<b>76,078</b>	<b>0.8</b>	<b>6,042,868</b>	<b>63.5</b>

*Source:* Computed based on Education Statistics Annual Abstract (MoE, 2020/21)

*Note* (\*): OOSC = Out of school children

**Fig. 2: Regional distributions of school enrollment and OOSC rates for 4-6 year olds.**



*Source:* Computed based on Education Statistics Annual Abstract (MoE, 2020/21)

**Table 2: Population of six-year olds, pre-primary and primary enrollment rates, and share of out-of-school children**

<i>Region</i>	<i>Population (6 year- Olds)</i>	<i>Enrolled_Pre-primary</i>	<i>%</i>	<i>Enrolled_Primary</i>	<i>%</i>	<i>OOSC</i>	<i>OOSC(%)</i>
Addis Ababa	81,023	55,880	69.0	11,659	14.4	13,484	16.6
Afar	53,604	10,505	19.6	1,862	3.5	41,237	76.9
Amhara	671,609	247,916	36.9	851	0.1	422,842	63
Benishangul-Gumuz	35,378	14,179	40.1	344	1.0	20,855	58.9
Dire Dawa	11,262	6,544	58.1	851	7.6	3,867	34.3
Gambella	12,759	8,140	63.8	907	7.1	3,712	29.1
Harari	6,500	4,633	71.3	587	9.0	1,280	19.7
Oromia	1,233,187	380,964	30.9	10,196	0.8	842,027	68.3
SNNPR	640,282	456,742	71.3	10,510	1.6	173,030	27
Somali	208,335	20,276	9.7	37,001	17.8	151,058	72.5
Tigray	156,331	94,500	60.4	1,310	0.8	60,521	38.7
<b>Total</b>	<b>3,110,270</b>	<b>1,300,279</b>	<b>41.8</b>	<b>76,078</b>	<b>2.4</b>	<b>1,733,913</b>	<b>55.7</b>

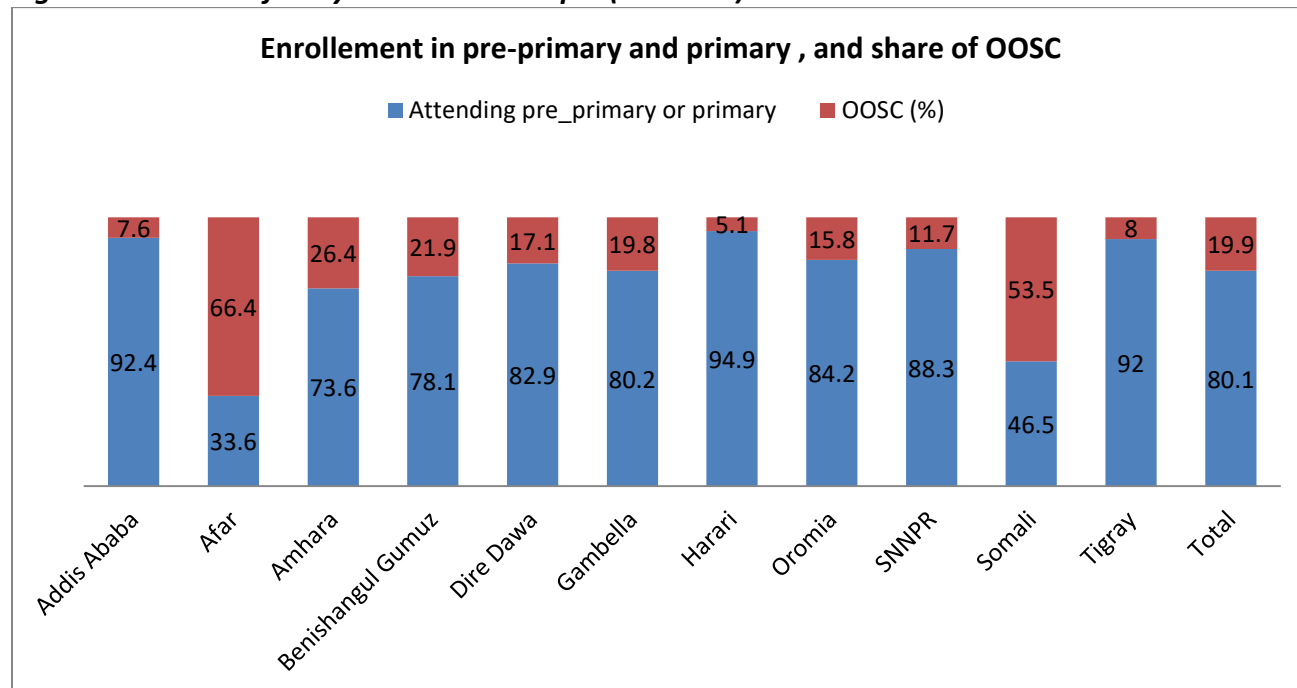
*Source:* Computed based on Education Statistics Annual Abstract (MoE, 2020/21)

### ***Magnitude of OOSC at pre-Primary and primary levels***

Specifically looking at six-year olds, more than 1.7 million (1,733,913) were OOSC (see Table 2), which is more than half (55.7%) of the population of all six-year old children in the country. When disaggregated as a function of regions, the highest OOSC come from Afar (76.9%), Tigray (72.5%) and SNNPR (68.3%), while the lowest OOSC rate come from Addis Ababa (16.6%), Oromia (19.7%), and Somali (27%). This suggests that there is a similar trend of keeping children out-of-school in regions other than those inhabited by predominantly pastoralist communities even though it is more pronounced in the latter's case (MoE-EMIS, 2019; 2020).



**Fig. 3: .OOSC rates for 6 year olds in Ethiopia (2020 A.Y)**



*Source:* Computed based on Education Statistics Annual Abstract (MoE, 2020/21)

In case of lower secondary, a slightly different pattern is evident with regions that perform better at pre-primary and primary levels are found to inhabit more and more OOSC. These include regions like Gambella, Oromia, Amhara, and SNNPR regions. One of the likely explanations could be child engagement in paid and unpaid labor in case of boys (e.g., Koohi-Kamili, 2021) and early marriage in case of girls particularly in Amhara and Oromia regions (e.g., Gebeyehu *et al*, 2023; Jones *et al*, 2014).

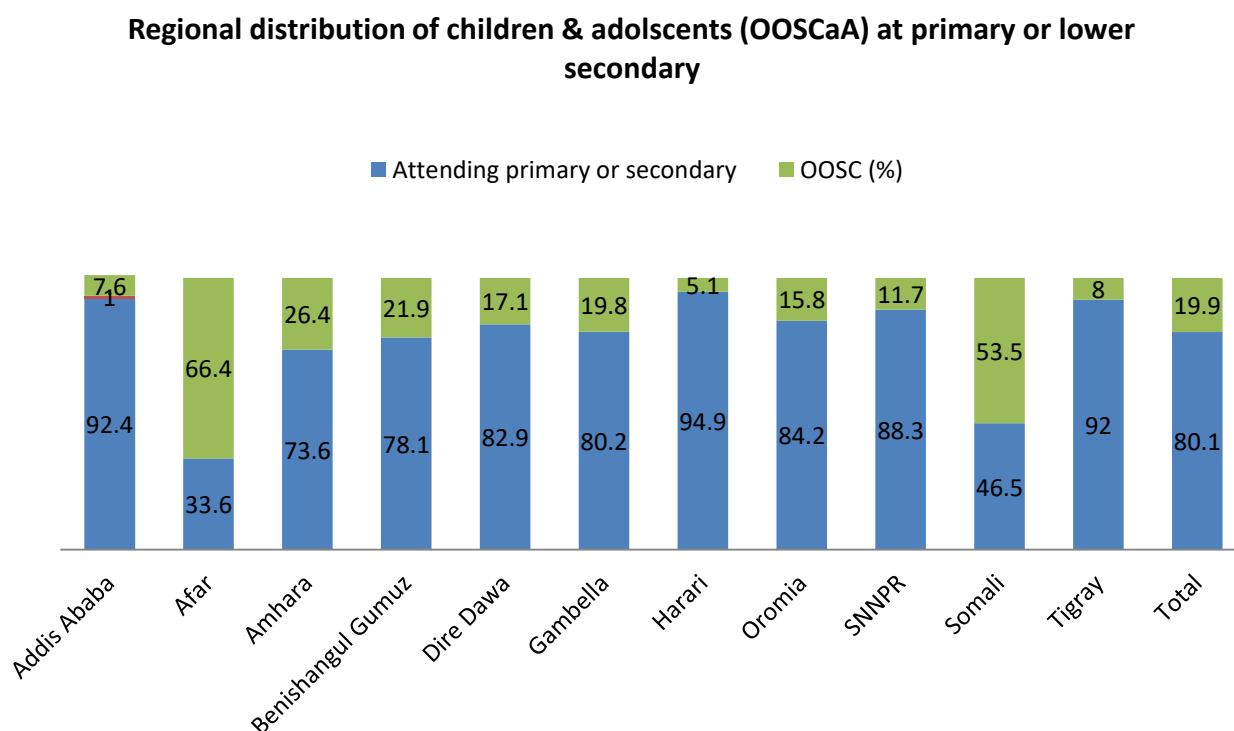
**Table 3: Out of school children & adolescents (age 7-14) by region**

Region	Population	Attending Primary	Attending Secondary	Attending Primary or Secondary (%)	OOSC	OOSC (%)
Addis Ababa	520.73	469.27	11.926	92.4	39.534	7.6
Afar	392.029	130.832	806	33.6	260.391	66.4
Amhara	5,011,935	3,676,509	13.414	73.6	1,322,012	26.4
Benishangul Gumuz	262.883	204.959	335	78.1	57.589	21.9
Dire Dawa	85.94	70.813	444	82.9	14.683	17.1
Gambella	95.89	76.514	417	80.2	18.959	19.8
Harari	50.165	47.461	129	94.9	2.575	5.1
Oromia	9,084,859	7,635,455	12.969	84.2	1,436,435	15.8
SNNPR	4,748,691	4,175,053	16.212	88.3	557.426	11.7

Somali	1,381,226	632.004	10.386	46.5	738.836	53.5
Tigray	1,181,454	1,080,424	6.843	92.0	94.187	8.0
<b>Total</b>	<b>22,815,802</b>	<b>18,199,294</b>	<b>73.881</b>	<b>80.1</b>	<b>4,542,627</b>	<b>19.9</b>

*Source: Computed based on MoE-EMIS. (2019/20) and MoE (2022)*

**Fig. 4: Regional distribution of OOSC at primary & lower secondary**



*Source: Computed based on MoE-EMIS. (2019/20) and MoE (2022)*

### ***Effect of age and gender***

Previous studies claim to find that child age is inversely related to staying in school. It is argued that with an increase in age, children are more likely to dropout. And, according to one study conducted in Sidama, it was found that the probability of dropping out increases with increasing age for both primary and lower secondary grades (Sussex University, 2018). To corroborate this finding based on nation-wide administrative data, the trends in the proportion

of OOSC between the ages of 7 and 12 year were considered. As shown in Table 4, the analysis based on odds ratios (ORs) shows that at age seven (i.e. at grade 1), regardless of gender, children are 18% less likely (OR = 0.18) to enroll. However, the likelihood of enrolling went down to 11% (OR = 0.11) at age 8 but bounce back to 16% (OR = 0.16) at age 9. Starting age 10 the probability that children become un-enrolled (become OOSC) takes off from as low as 18% (OR = 0.18) at age 10 to 31% (OR = 0.31) age 12. As shown in Fig. 5 (left), a similar pattern continues except it climbs rather sharply at ages 13 (OR = 0.41) and 14 (OR = 0.51) with a 10 % increase in the size of OOSC every year. The present findings are consistent with previous studies in two respects. One, the size of un-enrolled children at age 7 is larger. The second finding is that the number of children who were not enrolled increases with increasing age (see Fig 5, right). Similar findings were reported in previous studies (e.g., MoE & UNICEF, 2012; Sussex University, 2018; MoE, 2022) that attempted to find the empirical relationship between child age and the probability of school attendance.

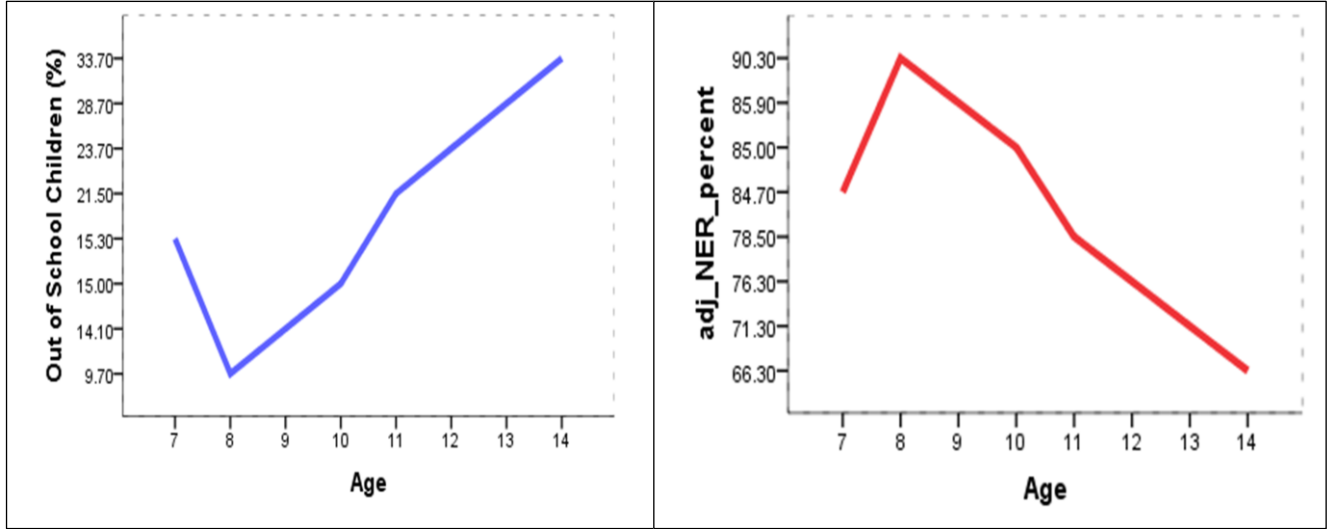
**Table 4: Likelihood of being out-of-school child as a function of age at primary grades (Age 7-14 years)**

<i>Age</i>	<i>Population</i>	<i>Enrolled</i>	<i>Un-enrolled (OOSC)</i>	<i>OOSC (%)</i>	<i>adj_NER(%)</i>	<i>Odds ratio (OR)</i>
7	3,047,993	2,583,057	464,936	15.3	84.70	0.18
8	2,986,934	2,698,057	288,877	9.7	90.30	0.11
9	2,927,676	2,514,387	413,289	14.1	85.9	0.16
10	2,868,832	2,438,616	430,216	15.0	85.0	0.18
11	2,809,015	2,206,242	602,773	21.5	78.5	0.27
12	2,758,645	2,104,458	654,187	23.7	76.3	0.31
13	2,722,238	2,715,118	779,985	28.7	71.3	0.41
14	2,694,469	2,627,708	908,364	33.7	66.3	0.51
<b>Total</b>	<b>22,815,802</b>	<b>19,887,643</b>	<b>4,542,627</b>	<b>19.9</b>	<b>80.1</b>	<b>0.25</b>

*Source: Computed based on MoE-EMIS. (2019/20) and MoE (2022)*

*Note: adj NER = adjusted net enrollment ratio*

**Fig. 5: OOSC (left) and adjusted Net Enrollment Rates (right) as a function of age**



*Source: Computed based on MoE-EMIS. (2019/20) and MoE (2022)*

**Gender disaggregated Pre-primary and primary enrollment and OOSC rates**

Figures 6a to 6c illustrate the differences between boys and girls with respect to OOSC rates. The figures indicate that compared to boys more girls are out of school at pre-primary level while in contrast the share of boys is bigger at primary level. On the other hand, the combined primary and lower-secondary OOSC rates (see Fig 6c) shows that the size girls (23.2%) are higher than boys (16.7%).

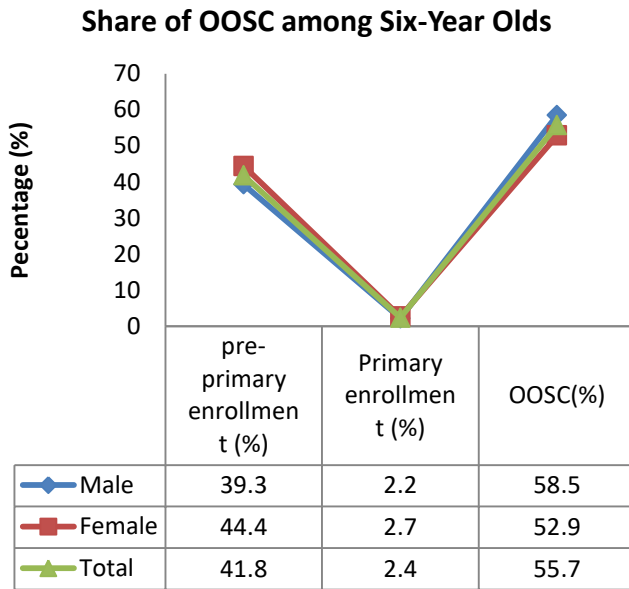


Fig 6a: Six-year olds OOSC

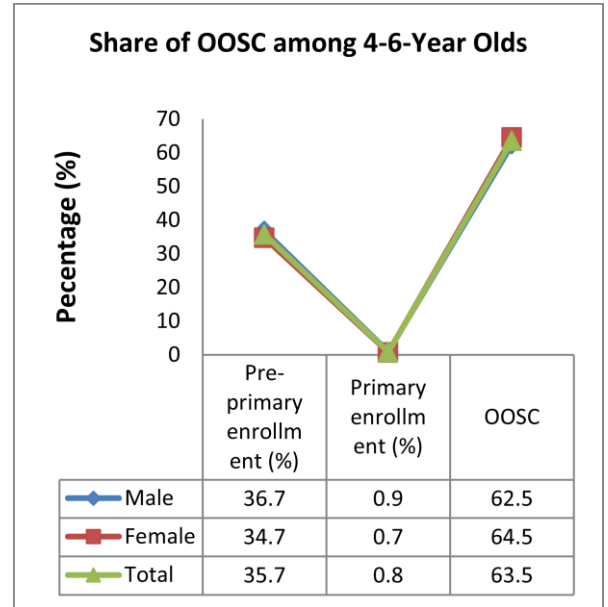


Fig 6b: 4-6 yrs. OOSC rates

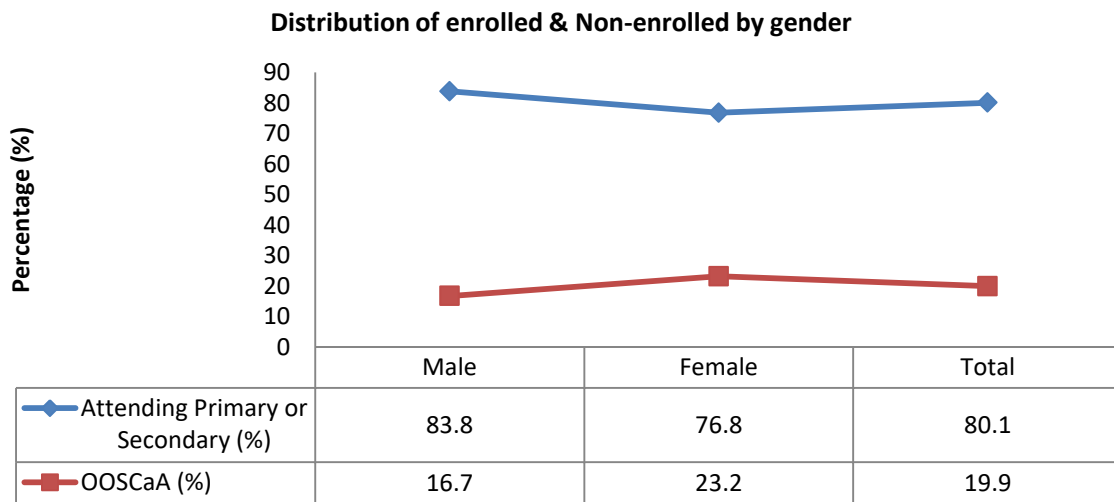


Fig 6C: Primary and lower-secondary OOSC rates by gender

Source: Computed based on MoE-EMIS. (2019/20) and MoE (2022)

**Table 4: Probability of school dropout at primary (1-8) grades by gender**

Grade	Total (%)	F (%)	M (%)	GGI = F/M	Ln (GGI)*
1	15	15	15	1.00	0
2	15	14	16	0.93	-0.07
3	10	09	10	0.90	-0.11
4	12	11	13	0.85	-0.16
5	13	11	14	0.79	-0.24
6	14	13	15	0.87	-0.14
7	11	10	12	0.83	-0.17
8	13	11	15	0.73	-0.31

*Source: Computed based on MoE-EMIS. (2019/20) and MoE (2022)*

*Notes* (\*): the values in the last column present the values of Gender Gap Index (GGI) converted into natural logarithm.

As reported in the Education Statistics Annual Abstract (2019/20), published by the Ministry of Education, the Grade 1 dropout rate as of the 2018/19 academic year stood at 25%. However, in 2019/20, a significant decline, which amounts to 10%, was observed. In general, starting from grade 4 to grade 8, the data suggest a sign of decline even though the pattern remains irregular. Nonetheless, when disaggregation by gender (see Table 5), a different pattern emerges as more boys than girls left primary school before the 2019/20 school year ends. In other words, the analysis of the gender gap in dropout rates reveals that with the exception of grade 1 where no difference was evident (gender parity), boys were found to run the risk of dropping out compared to girls (see Table 5). Specifically, it is found that boys are 31% more likely to dropout at grade 8 relative to girls attending the same grade. It is important to question why more and more boys dropout as they transition from childhood to adolescence. This finding, however, is inconsistent with studies based on household survey data which reported high likelihood of dropout among girls than boys (e.g., Admassu, 2011). The likely explanations for the inconsistency may be that the present finding is based on a nation-wide administrative data that encompasses both urban and rural schools while the studies which reported high female dropout rates were based on household surveys in rural Ethiopia. On the other hand, the change in the pattern of gender differences may be because previously less known, emergent variables like climate-induced environmental shocks came to the picture (UNESCO, 2020). In this regard, a recent study in Ethiopian context finds that high dropout rates

among boys related to involvement in paid and unpaid labor when households experience environmental shocks (Koochi-Kamili & Roy, 2021).

## **4.2. Scoping Literature Review**

The scoping literature review addresses two main questions: (a) what are the key issues (i.e. variables) of interest raised by past studies in connection to school enrollment and dropout (educational participation) in Ethiopia? And (b) what are the most frequently identified factors in the findings of the reviewed studies impacting school participation? The findings are discussed hereunder.

### **4.2.1. What are the important factors impacting child school enrollment and dropout?**

The findings of the scoping review generally show that child schooling, operationalized as child enrollment and dropout, is impacted by overlapping set of factors even though enrollment often happens at the beginning of school year while dropout occur between enrollment and completion of the school year. Methodologically, eight out of 25 studies relied on cross-sectional household surveys, four (16%) used either school survey or a combination of school survey and household surveys. On the other hand, 13 (55%) of the reviewed studies are based data obtained from Young Lives Child Poverty Study conducted in four countries, namely Ethiopia, Peru, Vietnam, and India conducted by Oxford University (highlighting the importance of this study for Ethiopia and the other countries involved). Based on the guiding questions of the scoping review, the 25 research papers broadly classified under five themes. These encompasses (a) *Climate-induced environmental socks*, (b) Household attitude, and gender effect on enrollment and dropout, (c) health and personal hygiene, (d) food security and school feeding, (e) household poverty and child labor, and; (f) war and armed conflict.

## **Climate-induced environmental shocks**

The first theme, climate-induced environmental shocks is a factor that has been rarely studied at least in the Ethiopian context. In this connection, three publications are found to be relevant in establishing the empirical link between child education and environmental shocks. For instance, in a multi-country study involving Ethiopia, India, Peru, and Vietnam, Nguyen and Pham's (2018) reported that as compared to the impact of environmental stressors such as drought, frost, and hailstorm, flood happens to result in negative consequences to child education. On the other hand, Koohi-Kamali and Roy (2021) reveal that climate-induced shocks could trigger high school dropout rates. According to these authors the interactive relationship between child labor and child education is mediated by climate disaster whereby more children are forced to terminate school in order to engage in paid labor to financially support their families (Koohi-Kamali & Roy 2021).

### ***Household attitude and gender effect on enrollment and dropout***

Of the 25 publications reviewed, six (24%) focused on gender differences in making enrollment decisions. The findings show that parents' attitude towards education not only impacts their decision to enroll children but also make gender specific decisions disfavoring girls. On the other hand, the findings indicate that parents' decisions to enroll their children early (i.e. at pre-primary age), increases the likelihood of grade attainment and completion. The findings further indicate that households differentially treat their daughters and sons when it comes to who they enroll (e.g., Semela, 2009; Chaudhury, Christiaensen & Asadullah, 2006) and the level of gender differences being more evident in rural areas (Mani, Hoddinott, & Strauss, 2013).

### **Household food insecurity and school feeding**

The scoping review reveals that four (16%) studies examined the effects of school meals or school feeding on enrollment and attendance. According to these studies, among the key reasons for school dropout and non-enrollment has been the inability of households to provide



adequate food and nutrition which (e.g., Semela, 2009). In this regard, several studies associate non-enrollment, dropout and high absenteeism with household poverty (e.g., Abafita & Kim, 2015; Woldehanna & Hagos, 2015; Woldehanna, Mekonnen, & Jones, 2008) which often manifests itself with inability to feed children so that they can complete primary education and beyond. To reverse the low school attendance and high dropout (Woldehanna & Hagos, 2015; Woldehanna, Mekonnen, & Jones, 2008) rates the Ethiopian government initiated the expansion and scaling up of the school feeding program to reach out to rural areas. The studies indicate that school attendance and enrollment were significantly related to child access to school meals (e.g., Destaw, Wencheke, Kidane, S. *et al.*, 2022) or benefiting from school feeding program (e.g., Desalegn *et al.*, 2021; Zenebe *et al.*, 2018).

### **Household poverty and child labor**

In addition to a range of household characteristics, the majority of the survey-based studies reviewed identify the demand for child labor (e.g., Abafita & Kim, 2015; Woldehanna & Hagos, 2015; Woldehanna, Mekonnen, & Jones, 2008; Rose & Al-Samari, 2001) as a critical factor for school dropout and non-enrollment. Based on school survey, Dangew (2017) finds that a range of factors impacts on school dropout. These include household income, and irrelevance of educational programs was among the major factors forcing children to dropout from school. Abafita and Kim (2015) conducted a household survey on a random sample of 352 households to examine the determinants of child school dropout in Tigray. The findings show that child age, gender (a female child), literacy status of the household head, income, birth order (first born have high likelihood of attendance viz. others) and presence of adult household member (increase the likelihood of dropping out.). In a related study Mani *et al.* (2013) studied the factors that impact on child enrollment and grade attainment based on a longitudinal sample of 15 rural study sites, the findings reveal that household income has a positive effect on school enrollment. On the other hand, child labor is found to systematically relate with environmental stressors which in turn expose households to economic shock.

### ***Health and hygiene***

Only three studies focused on the impact of child and adolescent health and hygiene on educational participation. Among other factors, children dropout of school due to health issues (e.g, Poppe. 2014) and physical changes due to adolescent development (Tegene & Sisay, 2013). Among the health related issues causing dropout is poor eyesight (e.g., Poppe, 2014). A study in rural Ethiopia found that girls with poor eyesight are 8% more likely to dropout. Tegene and Sisay (2013) examined if empirical relationship exists between adolescent management of menstrual hygiene on a random sample of 595 secondary school girls. The finding reveals that 58% of the respondents reported that their academic performance declined since they had menarche. In addition, qualitative interview revealed that dropping out is common among girls due to experiencing humiliation when they had their menarche for the first time.

### **War and armed conflicts**

The impact of war or armed conflict on child schooling, enrollment and dropout is not given sufficient scholarly attention in the Ethiopian educational research literature. As a result, only two (8%) recently published research articles (Belay *et al.*, 2023; Weledegeze, 2023) have been found. However, the issue is relatively better studied in other countries within sub Saharan Africa including Burundi (e.g., Verwimp & Van Bervel, 2014), Rwanda (Le Matting, 2018) and Nigeria (e.g., Bertoni *et al.*, 2019).

## **4.2. Determinants Schooling on Accounts of Researchers and Practitioners**

This section presents the findings based on interviews with and a follow up ratings of university-based researchers and education experts who have a hands-on practical experience in Ethiopian context. The findings will be discussed under two sub-headings. The first part presents the results of the interview while the second part discusses the findings based on interviewee's ranking of six selected factors or determinants of child schooling (operationalized as school enrollment and dropout). The factors were selected based on the results of the scoping review and interview with the researchers and practitioners is presented below.

#### **4.2.1. Accounts of researchers and practitioners**

The study participants were asked to draw on their experience as researchers and practitioners and identify the major factors that they think are responsible to the increasing OOSC rates in Ethiopia. The responses may be broadly categorized into two broader themes. These include (a) climate induced environmental stress, (b) armed conflict and cross-ethnic violence.

##### ***Climate induced environmental stress***

The interview data allows concrete demonstration of the effect of climate related impact on child education. Experts from education bureaus and educational researchers who had been working in Oromia and Somali regions have witnessed the serious ramifications of climate-induced displacements. An education expert has the following to say,

Severe drought in Somali region affected several districts forcing communities to desert their villages ...this resulted in parents and their children to flee their villages ...thousands of children became internally displaced without access to education. (Exp 03)

A similar trend was evident in Borena, south Oromia.

The drought in Borena was protracted and it affected schools as children find it difficult to attend school, but, in 2021 it reached catastrophic proportions resulting in huge loss of livestock resources– in the mildest of which tens of thousands of children without education.(Ex4 )

The climate impact varies considerably in terms of scope and scale. In some situations a continuous and heavy rain while in other cases flood or continuous and uninterrupted draught spanning several months. This, according to majority of the respondents was unbearable for small holder farmers and pastoralist alike. The respondent who frequently visits local communities in Sidama had to say the following:

Sometimes whether conditions results in crop failure ... sometimes too much rain while in other times too little rain or no rain. In such seasons, households face serious difficulties to feed their children and cover the cost of schooling selling their produce as before. (Exp5)

Overall, one can demonstrate the significance of climate change induced displacement as an important variable in terms of denying child education. Climate induced displacement evict households from their native villages where children can attend regular schools. While they are in camps of internally displaced persons (IDPs), school is a luxury and not all children have the right for education (UNESCO, 2020). A recent report indicates that over 3.3 million children are out of school of which about 1.1 million are IPDs partly due to continuous draught in in Eastern and Southern Ethiopia (Ethiopia Education Cluster, 2023)

### ***Armed conflict and ethnic violence***

The MoE Report (MoE, 2022) indicated that the conflict in Northern Ethiopia is having its impact felt with its considerable impact on education of children and adolescents. As result of the two year civil war, 4.7 people have been internally displaced from Afar, Amhara, and Tigray. Of these, 2.4 million are children. This is confirmed by a recent report (Ethiopia Education Cluster, 2023).

Interview results suggest the critical role of armed conflict and ethnic-based violence against out-groups played critical role in massive human displacement which in turn results in the distraction of educational infrastructure and termination of education of school age children. This has occurred in the two year conflict in Afar and Amhara as the conflict between TPLF forces with federal government army expanded. In this connection one of the researchers in the field noted,

The conflict in North Ethiopia (in 2020 and 2021) expanded southwards. This time, a large number of families left their villages and flooded to other relatively peaceful towns. This has led to a humanitarian crisis in most of the nearby cities and towns to decide to allow internally displaced people to be accommodated in schools. (P02)

Likewise, ethnically motivated violence had its own share of triggering massive displacement of families to give way to high rate of OOSC in Southern Ethiopia and Oromia regions. One of the educational experts in the same region reflects that,

Ethnic-based clashes in Southern Ethiopia was the major incident in triggering a huge displacement and eviction of people that left thousands of children to settle in internal displaced camps in Dilla town. (Ex02)

Majority of our respondents attribute the high OOSC rates to extraordinary situation that the country has been facing since 2017 where Ethiopia had experienced uninterrupted political instability which has ethnic dimensions.

Many of the children and young adolescents in Northern and southern Ethiopia were victims of armed conflicts including ethnically motivated violence. (P03)

Despite the continued violence there were also attempts to resume school for children of internally displaced families as one of the regional education bureau

There was some effort to resume school in locations where they settled...but the situation was fluid due to the conflict and little was achieved as a result. (Exp. 01)

The researchers and practitioners who have first-hand experience through their field work as researchers and government workers in the education sector identified that war and armed conflict, inter-ethnic strife, environmental impact leading to draught and food insecurity as critical problems resulting on school non-enrollment or dropout in Ethiopia.

#### ***4.2.2. Relative importance of determinants***

This section is devoted to examine the relative importance of proximate and distal determinants of school enrollment and dropout identified earlier (see: Fig. 1). However, these determinates were selected based on the findings of the scoping review and the results of the qualitative interview with educational experts and researchers with hands on, practical experience on the ground. Thus, by combining the interview data and the findings of the scoping review, six categories of determinants were identified. These includes (a) Ethnic-based conflict, (b) Negative attitude towards education; (c) War (i.e. armed groups fighting with central government), (d) Demand for child labor at home; (e) Environment or climate

consequence; and, d) Food insecurity at home. The respondents (n = 21) were then requested to rate the above mentioned factors from “most important” = 6 to “least important” = 1.

Accordingly, the raters (respondents) were requested rank order the six factors with respect to their impact in increasing the number of children out-of-school children (OOSC) over the past three years. Then the rank-ordered data was subject to Friedman Test, a nonparametric version of one-way ANOVA (Corder & Foreman, 2014). The results (see: Table 6) show that the six factors (as measured by their mean rankings) turned out to be statistically significant ( $F = 48.78$ ,  $p < .001$ ). As can be seen, the rank ordering of “war-armed conflict” (Mean Rank = 1.79), which the judges considered as the most important reason for children to stay out of school owing to increased non-enrollment or dropout. The second most important factor was “Environment or climate change” (Mean Rank = 2.71), followed by “Ethnic-based conflict” (Mean Rank = 3.07) and “Food insecurity at home” (Mean Rank = 3.43) were respectively ranked third and fourth. Factors like “Demand for child labor at home” (Mean Rank = 4.90) and “Negative attitude towards education” (Mean Rank = 5.10,) were respectively ranked to take the fifth and sixth positions.

**Table 6: Mean and SDs of judges’ ratings of the reasons for OOSC (n = 21)**

Perceived causes	Mean	SD	Min	Max	Mean Rank
Ethnic-based conflict	3.05	1.60	1.00	6.00	3.07
Negative attitude towards education	5.05	1.20	3.00	6.00	5.10
War (Armed groups fighting with gov’t)	1.76	0.89	1.00	4.00	1.79
Demand for child labor at home	4.86	1.11	1.00	6.00	4.90
Environment or climate consequence	2.71	1.27	1.00	5.00	2.71
Food Insecurity at home	3.38	1.43	1.00	6.00	3.43

*Friedman Test:  $T = 48.78$ ,  $df = 5$ ,  $p < .001$ (Asymp Sig)*

To identify the statistically significant differences in impacting on child dropout or non-enrollment, a *post-hoc* comparison between pairs of factors is then carried out analysis using *Wilcoxon Signed Ranks Test (T)* as suggested by Corder & Foreman (2014). The results presented in Table 7 depict the paired mean rank comparisons.

**Table 7: Post hoc Signed Test – Wilcoxon Signed Ranks Test**

		N	Mean Rank	Sum of Ranks	Z	Asymp Sig
Environment or climate consequence - War (Armed groups fighting with gov't)	Negative Ranks	6 <sup>a</sup>	8.33	50.00	-2.317 <sup>b</sup>	0.02
	Positive Ranks	15 <sup>b</sup>	12.07	181.00		
	Ties	0 <sup>c</sup>				
	Total	21				
Ethnic-based conflict – Environment or climate consequence	Negative Ranks	10 <sup>d</sup>	9.90	99.00	-.585 <sup>b</sup>	0.558
	Positive Ranks	11 <sup>e</sup>	12.00	132.00		
	Ties	0 <sup>f</sup>				
	Total	21				
Food Insecurity at home – Ethnic-based conflict	Negative Ranks	10 <sup>g</sup>	9.55	95.50	-.701 <sup>b</sup>	0.483
	Positive Ranks	11 <sup>h</sup>	12.32	135.50		
	Ties	0 <sup>i</sup>				
	Total	21				
Households demand for child labor at home – Food Insecurity at home	Negative Ranks	4 <sup>j</sup>	7.00	28.00	-3.084 <sup>b</sup>	.002
	Positive Ranks	17 <sup>k</sup>	11.94	203.00		
	Ties	0 <sup>l</sup>				
	Total	21				
Negative attitude towards educ – Households demand for child labor at home	Negative Ranks	6 <sup>m</sup>	13.25	79.50	-.644 <sup>b</sup>	.520
	Positive Ranks	13	8.50	110.50		
	Ties	2				
	Total	21				

<sup>a</sup>. Wilcoxon Signed Ranks Test

<sup>b</sup>. Based on negative ranks.

Accordingly, the largest Mean Rank difference ( $Z = -2.317$ ,  $p = 0.02$ ) was found between “War-Armed groups fighting gov’t” (Mean Rank = 12.07) and “Environment or Climate Consequence” (Mean Rank = 8.33) suggesting the former has much stronger effect than the latter even though the effect of environment is larger than that of “food insecurity at home” (Mean Rank = 9.55), the difference did not achieve statistical significance ( $Z = 0.558$ ,  $p > .05$ , *ns*). In similar manner, the effect of “food insecurity at home” (Mean Rank = 9.55) did not vary significantly ( $Z = -0.701$ ,

$p > 0.05$ ; *ns*) compared to that of “ethnic-based conflict” (Mean Rank = 12.32) despite a sheer mean rank difference in favor of the latter. On the other hand, significant mean rank differences was found ( $Z = -3.084$ ,  $p = 0.002$ ) between “Household Demand for child labor at home” (Mean Rank = 7.00) and “Food insecurity at home” (Mean Rank = 11.94) in favor of the latter. This indicates household food insecurity is more important in negatively impacting child education than demand for child labor at the household level. Also the pairs “Negative attitude towards education” (Mean Rank = 13.25) and “Household demand for child labor” (Mean Rank = 8.50) did not vary to statistically significant extent ( $Z = -0.644$ ,  $p > 0.05$ ; *ns*) although the former’s sheer mean rank seems more important in impacting on child school enrollment or dropout in Ethiopia.

Taken together, the analysis generally indicate that war and armed conflict, environment or climate emergencies, as well as household food insecurity are found to be critical in negatively impacting on the rights of the child to education. In fact, the impact of armed violence is also identified as one of the leading causes of child non-enrollment and dropout in other sub-Saharan countries according to studies conducted in Burundi (e.g., Verwimp P. & van Bavel, 2014), Nigeria (e.g., Bertoni *et al.*, 2019), Rwanda (e.g., La Mattina, 2018) and other countries in the developing world (e.g., Shemyakina, 2011; Valente, 2014).

## **5. Discussion and Conclusion**

As of 2019/2020, Ethiopia had OPCS amounting to 63.4% (9.5 million) of which, about 20% (22.8 million) at primary and 52% (5.3 million) at lower-secondary levels. Overall, of the total population 37.6 million children and adolescents within the age bracket of 4-16 years, 13.3 million are out of school. Besides, the findings further indicates that gender differences in pre-primary, primary, and lower-secondary levels are closing compared to previous years. Regions that have been performing relatively lower than other have substantially improved their enrollment rates. On the other hand, OPCS rates significantly vary across regions whereby higher rates are still in evidence in regions in pastoralist communities.



Further, the re-analysis of gender disaggregated dropout data for the year 2019/2020 indicates that girls as opposed to boys are less likely to dropout at primary grades (grades 1-8). This finding is relatively new as most household surveys reported that girls run the risk of dropping out compared to boys (e.g., Chaudhury *et al.*, 2006; Asadullah *et al.*, 2006). The explanations for high OPCS rates resulting from non-enrollment and dropout rates evident in the existing literature suggests that the households fail to enroll their children owing to range of factors including low income, child labor, school distance, , parental education (Gurumu, & Etana, 2013), gender of the child (e.g., Chaudhury *et al.*, 2006), environmental and economic shocks (e.g., Woldehanna & Hagos 2012), food insecurity at home; especially in most recent studies the presence or absence of school feeding program (e.g., Desalegn, Gebremedhin, Alemayehu, & Stoecker, 2021; Belachew; Zenebe, Gebremedhin, Henry *et al.*, 2018; Hadley, Lindstrom, Gebremariam, Lachat, & Kolsteren, 2011). However, the magnitude of the effects is rarely discussed particularly in recent studies given the changes in the political and environmental landscape in Ethiopia. To complement this, six empirically identified factors ranked in order of severity of impact on child non-enrollment and dropping out highly experienced education experts and university based researchers in Ethiopia by taking into account what they observed on the ground over the past three years (since 2020). The results of the ratings indicated that war-between armed groups and government forces, climate change-induced environmental shocks, ethnic-based violence, lack of food in the household, demand for child labor, attitude households, ranked in that order, have emerged as determinant factors. While factors like demand for child labor and parental attitude are frequently found in the literature, the inclusion of war and conflict and climate-induced environmental causes are rarely reported. This is probably because since the coming to power of a new prime minister and later a political party that replaced the TPLF-led EPRDF, the country has since been undergoing uninterrupted conflict particularly in the North and Southern regions of the country leading to unprecedented number of internally displaced children.

### ***Policy Implications***

Looking at the findings one would recognize the fact that most of the problems that have been identified in the present study require measures to go beyond quick fixes to curtail rising OOSC rates in Ethiopia. The solutions demand integrated approach involving a wide-range of stakeholders operating at local, national and international levels.

- Civil war, ethnic conflict, and communal violence are formidable bottlenecks to ensure child education rights. Thus, predictable peace and security is necessary for schools to operate effectively. This demands the concerted effort of local, regional and national security structures. Nonetheless, in the long-term, lasting peace should be achieved through peaceful and democratic means.
- Climate-induced environmental challenges such as flood, persistent draught and other calamities call for adopting long, medium, and long term measures. The short and mid-term solutions could be early warning systems and preparedness that is tailored for the needs of schools, children and communities so that children would have education despite the environmental problems. In the long-term, however, the role of international stakeholders needs to be more visible and significant as to bolster the technical and resource needs of local communities and national-level actors.
- Expanding the Ethiopian Green Legacy initiative is an important starting point whereby schools and communities share the values of protecting the environment to ensure their children education to build resilience and overcome potential interruption in the future.
- The impending problem of household food insecurity as a formidable bottleneck for education of children and adolescents should be addressed. This requires short, medium and long-term planning and intervention. In the short and medium term, strengthening and scaling up the pilot-level school feeding program will have a considerable positive implications in minimizing out of school rates. The long-term plan to address food insecurity may build on the on-going government initiatives of expanding grain

production which would embrace smallholder farmers and pastoralists in rural areas from which the overwhelming majority of out of school children originate.

- Developing effective monitoring strategies to reliably capture dropout and non-enrollment rates at school and district levels to make policy planning and interventions in the short-medium term.

## REFERENCES

Abafita, J., & Kim, C-S. (2014). Children's Schooling in Rural Ethiopia: The Role of Household Food Security, Parental Education and Income. *Children, 5*(14).

Abafita, J. & Kim, C-S. (2015). Determinants of children's schooling: The case of Tigray Region, Ethiopia, *Educational Research and Reviews, 10* (8):1130-1146.

Adem, M., Cochrane, L., Miceikienė, A., Skominas, R., & Azadi, H. (2023). The dynamics of multidimensional food security in rural Ethiopia. *Global Food Security, 39*, 100725.

Admassu, K.A. (2011) 'Primary School Enrolment and Dropout in Ethiopia: Household and School Factors', paper presented to the Population Association of America, Annual Meeting Program, 31 March – 1 April 2011, Washington DC .

Asadullah, M.N., Chaudhury, N. & Christiaensen, L. (2006) Schools, Household Risk and Gender: Determinants of Child Schooling in Ethiopia, CSAE Working Paper 2006-6, Oxford: Centre for the Study of African Economies, University of Oxford

Belay, F, Berhane, D., Teshale, H., Mulubrhan, G/S, Hagos, T, Gebremariam, H., Brhane, T., & Islam, Z. (2023). The effect of war on educational institutions of Eastern Tigray zone, Tigray state, Ethiopia. *International Journal of Educational Development, 102*: 102864

Belachew, T., Hadley, C., Lindstrom, D., Gebremariam, A., Lachat, C, & Kolsteren, P. (2011). Food insecurity, school absenteeism and educational attainment of adolescents in Jimma Zone Southwest Ethiopia: a longitudinal study, *Nutrition Journal, 10*:29.

Berhane, G., Abay, M.H. & Woldehanna, T. (2015) *Childhood Shocks, Safety Nets and Cognitive Skills: Panel Data Evidence from Rural Ethiopia*, ESSP II Working Paper 73, Washington, DC and Addis Ababa: International Food Policy Research Institute (IFPRI) and Ethiopian Development Research Institute (EDRI). <http://cdm15738.contentdm.oclc.org/utis/getfile/collection/p15738coll2/id/128965/filename/129176.pdf> (accessed 10 August 2023).

Bertoni, E., Di Maio, M., Molini, V., & Nistico, R. (2019). Education is forbidden: The effect of the Boko Haram conflict on education in North-East Nigeria. *Journal of Development Economics*, 141, 102249. [doi.org/10.1016/j.jdeveco.2018.06.007](https://doi.org/10.1016/j.jdeveco.2018.06.007)

Bizuwerk, D. (2021). Displaced by conflict, children miss their schools and friends *Ethnic conflict in Ethiopia has displaced tens of thousands, uprooting families and young people*. Available at <https://www.unicef.org/stories/displaced-conflict-children-miss-their-schools-and-friends> (Access date 29/12/2023)

Chaudhury, N, Christiaensen, L. & Asadullah, M.N. (2006), *Schools, Household, Risk, and Gender: Determinants of Child Schooling in Ethiopia*, The World Bank.

Cochrane, L. (2021). *Ethiopia and food security: What we know, how we know it, and future options*. Tsehai: Addis Ababa.

Cochrane, L. & Cafer, A. (2020) Transformative Change in Rural Ethiopia: The Impact of Small- and Medium-Scale Irrigation. *Journal of Rural Social Sciences* 35: 1-22.

Cochrane, L. & Cafer, A. (2018) Does Diversification Enhance Community Resilience? A Critical Perspective. *Resilience* 6(2): 129-143.

Corder, G.W. & Foreman, D.I. (2014). *Nonparametric Statistics: A Step-by-Step Approach* (2<sup>nd</sup> ed.), New Jersey: John Wiley & Sons, Inc.

Dagnew, A. (2017). Determinants of students' dropout rate in primary schools: The case of Awi Zone selected schools, Ethiopia, *African Educational Research Journal* Vol. 5(3), pp. 186-193

Desalegn, T.A., Gebremedhin, S., Alemayehu, F.R., & Stoecker, B.J. (2021). The effect of school feeding programme on class absenteeism and academic performance of schoolchildren in Southern Ethiopia: a prospective cohort study, *Public Health Nutrition: 24(10)*, 3066–3074. doi:10.1017/S1368980021000501

Dheressa D.K (2011) Education in focus: impacts of school feeding program on school participation: a case study in Dara Woreda of Sidama zone, southern Ethiopia. M.Sc Thesis, Norwegian University of Life Sciences. <https://nmbu.brage.unit.no/nmbu-xmlui/handle/11250/187763> (accessed November 2023).

Education Cluster Strategy. (2023/March). *Ethiopia Education Cluster (2023)*. Education Cluster Strategy, Addis Ababa.

Ethiopian News Agency (ENA). (2023/Feb2). Some 71 Schools Completely Destroyed by Conflicts in Northern Ethiopia to be Reconstructed, available at [https://www.ena.et/web/eng/w/en\\_42531](https://www.ena.et/web/eng/w/en_42531), accessed on 26/12/2023.

Gebeyehu N.A, Gesese M.M, Tegegne K.D, Kebede Y.S, Kassie G.A, Mengstie M.A, *et al.* (2023) Early marriage and its associated factors among women in Ethiopia: Systematic reviews and meta-analysis. *PLoS ONE 18(11)*: e0292625. <https://doi.org/10.1371/journal.pone.029262>

Gurumu, E. & Etana, D. (2013). Socio-economic and Demographic Determinants of Children’s Primary School Enrolment in Ethiopia, *Eastern Africa Social Science Research Review, 29 (1)*.

Kebede, D. S. (2016). Determinants of Dropout: A Logistic Regression GLM Special Case Analysis among Primary School Children in Ethiopia, MSc Thesis, School of Graduate Studies, Hawassa University.

Koohi-Kamali, F. & Roy, A. (2021) “Environmental Shocks and Child Labor: A Panel Data Evidence from Ethiopia & India”, Schwartz Center for Economic Policy Analysis and Department of Economics, The New School for Social Research, Working Paper Series 2021-05.

Jones, N., Tefera, B., Stephenson, J. Gupta, T. & Perezniето, P. (2014). Early marriage and education: the complex role of social norms in shaping Ethiopian adolescent girls’ lives. Technical Report.

Lai, B. & Thyne, C. (2007). The effect of civil war on education, 1980—97. *Journal of Peace Research, 44 (3)*, 277-292. [doi.org/10.1177/00223433070766](https://doi.org/10.1177/00223433070766)

La Mattina, G. (2018). How persistent is the effect of conflict on primary education? Long-run evidence from the Rwandan genocide. *Economics Letters*, 163, 32–35. [doi.org/10.1016/j.econlet.2017.11.002](https://doi.org/10.1016/j.econlet.2017.11.002).

Lindskog, A. (2013). The effect of siblings' education on school-entry in the Ethiopian highlands, *Economics of Education Review*, 34, 45-68, <https://doi.org/10.1016/j.econedurev.2013.01.012>

Mani, S., Hoddinott, J. & Strauss, J. (2012). Long-term impact of investments in early schooling — Empirical evidence from rural Ethiopia. *Journal of Developing Economies*, <https://doi.org/10.1016/j.jdeveco.2012.03.002>

Mani, S., Hoddinott, J. & Strauss, J. (2013). Determinants of Schooling: Empirical Evidence from Rural Ethiopia, *Journal of African Economies*, 22(5), 693-731, <https://doi.org/10.1093/jae/ejt007>

MoE. (2022). *The 2020 National Report on Out of School Children in Ethiopia*, Ministry of Education, Addis Ababa.

MoE-EMIS. (2022). *Education Statistics Annual Abstract (2020/21)*, Education Management Information System (EMIS), Ministry of Education.

MoE-EMIS. (2019). *Education Statistics Annual Abstract (2017/18)*, Education Management Information System (EMIS), Ministry of Education.

Ministry of Education (MoE) and UNICEF. (2012). *Study on Situation of Out of School Children (OOSC) in Ethiopia*, Addis Ababa, Ethiopia.

MoE. (2022). *National Study on the Magnitude of Out-of-School Children in Ethiopia: 2020 Report Synthesis*. Ministry of Education: Addis Ababa

MoE-EMIS. (2020). *Education Statistics Annual Abstract (2019/20)*, Education Management Information Systems (EMIS), Ministry of Education

Nguyen, C.V. & Pham, N.M. (2018). The impact of natural disasters on children's education: Comparative evidence from Ethiopia, India, Peru, and Vietnam. *Review of Development Economics*, 22 (4): 1561-1589.

Porter, C. & Ford, K. (2022/January). "Education is under threat from climate change - especially for women and girls" Oxford Department of International Development (ODID), University of Oxford, Queen Elizabeth House 3 Mansfield Road, Oxford, OX1 3TB, UK. Available online:<https://www.younglives.org.uk/news/education-under-threat-climate-change-especially-women-and-girls>. (Accessed 08/12/23).

Rose, P. & Al-Samari, S.,(2001), Household Constraints on Schooling by Gender: Empirical Evidence from Ethiopia, *Comparative Education Review* 45(1), DOI: [10.1086/447644](https://doi.org/10.1086/447644)

Seid, Y. (2016). Does learning in mother tongue matter? Evidence from a natural experiment in Ethiopia. *Economics of Education Review*, 55, 21-38. DOI: <https://doi.org/10.1016/j.econedurev.2016.08.006>.

Semela, T. (2009). Child schooling in *Sidama*: Determinants of school dropping out and sex-preference in making enrollment decision. *Ethiopian Journal of Education*, 29 ( 2), 1-21.

Semela, T. & Demamu, S. (2001). A Community-Based Assessment of School Participation and Associated Factors in *Gedeo Zone*, Southern Ethiopia. *Ethiopian Journal of Development Research*, 23(2), 85-112.

Sharada W. (2011). Parental Attitudes and Demand for Schooling in Ethiopia. *Journal of African Economies*, 20(1): 90-110.

Shemyakina, O. (2011). The effect of armed conflict on accumulation of schooling: Results from Tajikistan. *Journal of Development Economics*, 95(2), 186-200. [doi.org/10.1016/j.jdeveco.2010.05.002](https://doi.org/10.1016/j.jdeveco.2010.05.002)

Tafere, Y. & Woldehanna, T. (2012). *Beyond Food Security: Transforming the Productive Safety Net Programme in Ethiopia for the Well-being of Children*, Young Lives Working Paper 83, Oxford: Young Lives. Available at:

<https://www.younglives.org.uk/sites/default/files/migrated/Ethiopia%20Country%20Report%20June%202018.pdf> (accessed, 08 December 2023).

Valente, C. (2014). Education and civil conflict in Nepal. *The World Bank Economic Review*, 28(2), 354-383. [doi.org/10.1093/wber/lht014](https://doi.org/10.1093/wber/lht014).

Verwimp P. & van Bavel J. (2014). Schooling, violent conflict, and gender in Burundi. *The World Bank Economic Review*, 28 (2), 384–411, [doi.org/10.1093/wber/lht010](https://doi.org/10.1093/wber/lht010).

United Nations. (2019). Sustainable Development Goal 4. Retrieved from <https://sustainabledevelopment.un.org/sdg4>.

UNESCO (2018). Impact of Internal displacement on education in sub-Saharan Africa. Background paper for Global Education, UNESCO.

UNESCO. (2020). The impact of climate change displacement on the right to education, UNESCO. Available <https://www.unesco.org/en/right-education/climate-change-displacement>  
Access date 26/11/2023

UNESCO-UIS. (2021). New Methodology Shows that 258 Million Children, Adolescents and Youth Are Out of School, Fact Sheet no. 56 September 2019 UIS/2019/ED/FS/56.

UNESCO-UIS. (2021). Estimation of the numbers and rates of out-of-school children and adolescents using administrative and household data, UNESCO- UNESCO Institute for Statistics.

UN-OCHA. (2028). Ethiopia: West Guji – Gedeo Conflict Displacement. Flash Update 5.

University of Sussex. (2018). Speed School Program Ethiopia. Tracking the Progress of Speed School Students 2011-2017. <https://luminosfund.org/wp-content/uploads/2018/11/Sussex-Evaluation-Full.pdf>.

Weldeegzie, S. (2023). The persistent effect of conflict on educational outcomes: Evidence from Ethiopia. *International Journal of Educational Development*, 103: 102884

Woldehanna, T. & Hagos, A. (2015). Economic Shocks and Children's Dropout From Primary School: Implications For Education Policy In Ethiopia, *Africa Education Review*, 12:1, 28-47, DOI: [10.1080/18146627.2015.1036548](https://doi.org/10.1080/18146627.2015.1036548)



Woldehanna, T. & Hagos, A. (2012). Shocks and Primary School Drop-out Rates: A Study of 20 Sentinel Sites in Ethiopia. *Young Lives*.

Woldehanna, T., Mekonnen, A. & Jones, N. (2008). Education choices in Ethiopia: what determines whether poor households send their children to school? *Ethiopian Journal of Economics*. 17(2), 43-80. DOI: [10.4314/eje.v17i1.46195](https://doi.org/10.4314/eje.v17i1.46195).

Woldehanna, T., Endale, K., Hamory, J, & Baird, S. (2021). Absenteeism, Dropout, and On-Time School Completion of Vulnerable Primary School Students in Ethiopia: Exploring the Role of Adolescent Decision-Making Power in the Household, Exposure to Violence, and Paid and Unpaid Work, *The European Journal of Development Research*, <https://doi.org/10.1057/s41287-021-00454-5>.

Woldehanna, T. (2010) 'Productive Safety Net Program and Children's Time Use Between Work and Schooling in Ethiopia' in J. Cockburn and J. Kabubo-Mariara (eds) *Child Welfare in Developing Countries*, 157–209, New York: Springer.

Woldehanna, T., Behrman, J.R. & Arayaasse, M.W. (2017). The Effect of Early Childhood Stunting on Children's Cognitive Achievements: Evidence from Young Lives Ethiopia' *Ethiopian Journal of Health Development* 31.2. <https://www.ejhd.org/index.php/ejhd/article/view/1234/940> (accessed 10 August 2023).

Yamada, S. (2007). Making Sense of the EFA from a National Context: Its Implementation, and Impact on Households in Ethiopia", in Baker, D.P. and Wiseman, A.W. (eds.) *Education for All (International Perspectives on Education and Society, Vol. 8)*, Emerald Group Publishing Limited, Leeds, pp. 453-491. [https://doi.org/10.1016/S1479-3679\(06\)08016-9](https://doi.org/10.1016/S1479-3679(06)08016-9).

Zenebe M, Gebremedhin S, Henry C.J *et al.* (2018) School feeding program has resulted in improved dietary diversity, nutritional status and class attendance of school children. *Ital J Pediatr* 44, 16.