



Education Equity Indicators for Access

Guidance for Practitioners in Crisis and Conflict-Affected Contexts

Education Equity Research Initiative

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Photo credit: Nurudeen Lawal / FHI 360, Nigeria Reading and Numeracy Activity (RANA)



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*The **Education Equity Research Initiative** is a collaborative partnership that connects organizations and individuals committed to building stronger evidence and knowledge for improving solutions for equity in and through education.*



Acronyms

CREATE	Research on Educational Access, Transitions and Equity
DHS	Demographic and Health Surveys
DTM	Displacement Tracking Matrix
EiCC	Education in crisis and conflict
ECCN	Education in Crisis and Conflict Network's
EMIS	Education Management Information System
EPDC	Education Policy and Data Center
GIDD	Global Internal Displacement Database
IDMC	Internal Displacement Monitoring Center
IOM	International Organization for Migration
LSMS	Living Standards Measurement Studies
IDPs	Internally Displaced Persons
MICS	Multiple Indicator Cluster Surveys
MIRA	Multi-Cluster/Sector Initial Rapid Assessment
M&E	Monitoring & Evaluation
NGOs	Non-Government Organizations
OECD	Organization for Economic Cooperation and Development
REAL	Research for Equitable Access and Learning
RERA	Rapid Education Risk Analysis
SDGs	Sustainable Development Goals
UN DESA	United Nations Department of Economic and Social Affairs
UNHCR	Population Statistics Database, by the United Nations High Commissioner for Refugees
UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
USAID	United States Agency for International Development



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I. Introduction

Document purpose and intended audience

The purpose of this document is to provide guidance to USAID missions, other donors, and implementing organizations operating in crisis and conflict-affected environments for the development of project indicators and metrics to measure equity of access to educational opportunities. Although this document uses terminology that is current within the framework of collaboration between USAID missions and their implementing partners (IPs), the overall guidance for indicator development should be broadly relevant and applicable among other agencies, donors and organizations.

The process proposed for developing equitable access indicators and the specific recommended indicators respond to the recommendations of the USAID Education in Crisis and Conflict Network's (ECCN) "[Analysis of Indicators Used in USAID Education Projects in Crisis and Conflict Environments](#)", published in June 2016. This ECCN analysis highlighted a need for 1) improving *consistency* of key concepts and their measures across USAID's Education in Crisis and Conflict projects, and 2) devising more *outcome* indicators and associated measurement strategies for such projects.

While particular implementing environments and locally relevant objectives demand project-specific Theories of Change and thus contextualized results frameworks, such contextualization should rest upon standardization and consistency across projects and missions, both in terms of the fundamental concepts, such as "equity," that underlie programmatic objectives, and in terms of how progress towards these objectives is measured. Therefore, this guidance document has been designed to contribute to such harmonization by promoting **consistent, shared definitions** of "access," "equity," and "equitable access indicators" and by employing these definitions as the foundation of recommended approaches to measuring equitable access. Furthermore, although the ECCN indicator analysis cited above focused solely on USAID projects, other donors and their implementing agencies should equally benefit from the standardization and consistency that this guidance facilitates.

The focus of this guidance document is exclusively on education equity indicators for access and retention, but we acknowledge the importance for practitioners to also consider equity for other key educational outcomes, such as learning. Children from the most marginalized segments of the population who are able to access education opportunities are often at the most risk of being in school, but not learning or learning very little. For guidance on measuring equity in learning, please refer to the Handbook on Measuring Equity in Education (2018)¹.

Defining "access"

A traditional view of access includes indicators of participation given by school enrolment rates. The most common set of indicators used to measure access to schooling are gross or net enrollment and/or attendance rates, generally stated as ratios. Intake rates are also used to calculate

¹ The Handbook on Measuring Equity in Education (2018) was produced by the UNESCO Institute for Statistics (UIS) in collaboration with FHI 360 Education Policy and Data Center (EPDC), Oxford Policy Management, and the Research for Equitable Access and Learning (REAL) Centre at the University of Cambridge.



“initial” access to school and are similar to enrollment and attendance, except their reference is a single year’s age, which is the official age of entry into primary school. We adopt an expanded view of education access to go beyond indicators of enrollment and to also include retention, since enrollment ratios often mask major differences in retention and school completion (Dryden-Peterson, 2009). Children who have never enrolled in school represent a small minority of out-of-school children in low-income countries (Lewin, 2007). A major part of the problem of exclusion refers to children who do enroll but have irregular attendance patterns and/or subsequently drop out for various reasons (Lewin, 2007). School flow indicators are the most commonly used indicators for measuring school retention. These include promotion, repetition, and dropout rates by grade. See Appendix B for a discussion of indicators commonly used to measure access and retention.

Defining “equity”

Often in the field of education the terms **equity** and **equality** are used interchangeably. In education, equality in educational outcomes, such as in school access, retention and progression, and learning, is a desired end of many policies and programs, but equality in inputs, such as equal resource allocation—may not always be desirable, given inequality of starting conditions and opportunities. In the context of the Equity Initiative, **equity** is defined as redistribution of resources (human, institutional, and financial) in education with the goal of reducing or eliminating **systematic inequality** in educational outcomes, (Education Equity Research Initiative, 2016). **Equity** is thus understood as a path to achieving **equality**. Inequity happens when programs, policies, or interventions fail to provide every child with an equal opportunity to obtain a quality education (Education Equity Research Initiative, 2016).

General definition of “equitable access indicator”

The term “**equitable access indicator**” refers to an indicator that measures change in access to education among population subgroups, or narrowing of access gaps between subgroups. Inequalities in education often coincide with group boundaries, as children from the poorest and most marginalized segments of the population tend to suffer disproportionately higher levels of exclusion from the education system. Equitable access indicators thus measure horizontal inequalities, that is, inequalities among different groups in a society. Measuring horizontal inequalities in crises or conflict settings is especially important, since these countries tend to have lower overall education access rates and are characterized by the largest disparities in access as a result of exclusion by poverty, gender, displacement, urban/rural residence, or other factors (EPDC, 2007). These subgroups have often been *educationally marginalized* as a result of various barriers to education that affect them more acutely, either historically or as the result of recent circumstances. Ideally, a project will narrow access gaps by *increasing access to education for those subgroups whose access rates at baseline are disproportionately low*.

Most equitable access indicators are **outcome indicators** in nature, as they measure whether a project is achieving the expected effects/changes in narrowing access gaps in the short and medium term. By contrast, *Number of children and youth accessing education services*, disaggregated by population subgroups, is an **output indicator** commonly used by projects. This kind of **output** indicator only captures a project’s immediate results in terms of children and youth reached; it does not provide a measure of the



projects' effect in increasing school access for different population sub-groups or in narrowing an access gap.

Why develop equity indicators for education access?

A solid consensus has emerged within the global educational development community over the past decade on the imperative of improving equity of educational access. Recently, the Sustainable Development Goals (SDGs) agenda acknowledged equity as a central guiding principle to sustainable progress². In line with equity goals, the agenda calls for “leaving no one behind” by “putting the furthest behind first”. Specifically, target 4.5 of the SDGs agenda has called for the elimination of disparities to ensure equal access to all levels of education.

Eliminating disparities to education access entails understanding how children’s background characteristics and their group affiliations shape their access to educational opportunities. Data clearly demonstrates that out-of-school children do not represent all segments of the population equally (UNICEF, 2015), and that exclusion is often related to individual and group level characteristics, or *equity dimensions*. We list and discuss these dimensions in Section II.

Recent research by FHI 360/UNICEF³ provides evidence that rising inequalities in education can increase the risk of conflict, *and* that experiencing conflict can consequently exacerbate preexisting education inequality. There is also growing recognition that contextual risks, particularly in crisis or conflict-affected settings, such as gang-related violence, insecurity, natural hazards, and health emergencies, may impact education and increase inequality and that education itself may exacerbate or mitigate these risks. To break the cycle of inequality and crisis or conflict, and take a conflict-sensitive approach to education programming, it is critical for education practitioners to prioritize equitable approaches and to measure change in equity over time.

Specifically, developing strong equitable access indicators is useful on at least two levels:

- Education system level: indicators are useful to systematically identify possible disadvantaged groups in terms of school access; and
- Project level: indicators are useful for two main purposes: i) ensuring that projects adopt and prioritize equity-related goals, strategies, and interventions around school access; and (ii) that projects share with relevant local education stakeholders information on inequities in access that can inform dialogue and collaboration around search for solutions.

As noted in the ECCN indicator analysis, many projects have implicitly measured equity simply by *disaggregating* indicators on access or retention by one or more dimensions of equity, most often by gender. However, simple disaggregation tacitly assumes that increased equity *may* result from the

² Equity is a critical component of SDG 3 – *ensure healthy lives and promote well-being for all at all ages*; SDG 5 – *achieve gender equality and empower all women and girls*; SDG 10 – *reduce inequality within and among countries*; and SDG 17.18 which calls for countries to *increase the availability of data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts by 2020*.

³ Please see the following for more information: Omoeva, C., Hatch, R., & Moussa, W. (2016). The Effects of Armed Conflict on Educational Attainment and Inequality. Available at: <https://www.epdc.org/education-data-research/effects-armed-conflict-educational-attainment-and-inequality>



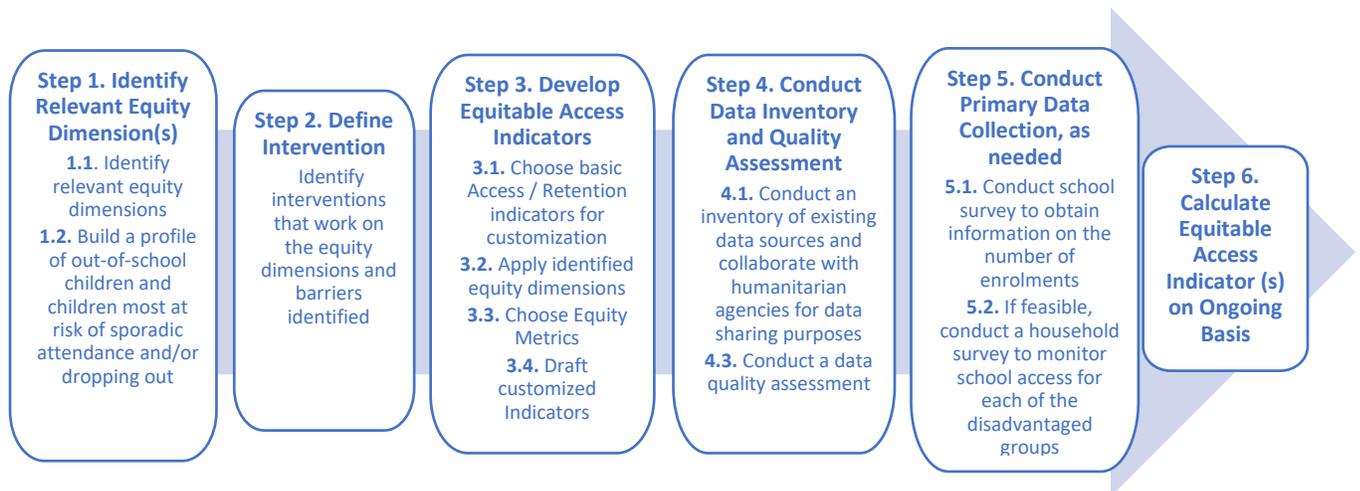
intervention as a whole, rather than explicitly tracing the link to increased equity as an outcome of context-specific, purposefully designed equity strategies and intervention components. Therefore, including explicit equity indicators in a program monitoring and evaluation plan shines a light on education equity as a core program outcome, thus increasing the likelihood that education equity will be prioritized.

While many of the core concepts and principles of the guidance are applicable to developing country contexts in general, this document highlights strategies for addressing data availability challenges that are typically most acute in contexts of conflict and crisis. Measurement of equitable access outcomes in crisis and conflict-affected contexts presents particular challenges that are addressed by this document.

II. Developing customized equity indicators

The following section outlines a general sequence for developing, measuring and monitoring customized indicators of equitable education access (Figure 1), which incorporates **consistent definitions** of “access,” “equity,” and “equitable access indicators”.

Figure 1. Process Map for developing, measuring and monitoring customized indicators of equitable education access



Customized indicators allow for flexibility and adaptation to the needs and objectives of specific projects. An emphasis on customization comes from recognizing that the patterns of exclusion and education inequity vary by country and locality. Broadly, the process entails identifying context-specific equity dimensions and barriers to education access; identifying interventions that might prove useful in promoting increased access to education; developing equitable access indicators through a step-by-step approach that combines the relevant equity subgroups with specific equity metrics; conducting a data inventory and a quality assessment; conducting primary data collection through school or household survey as needed and as feasible.

The remainder of this section provides additional guidance and details for each step in the process. Through all the steps proposed, we strongly advocate for a purposeful, collaborative approach to indicator development and measurement, involving education authorities, local stakeholders and other implementing partners (through education-related clusters) in all steps highlighted in the guidance. This



is key to ensuring that context specific equity dimensions are reflected in the final equitable access indicators and for promoting local ownership and usage of these indicators for decision-making.

Step 1: Identify relevant equity dimension(s)



Children from the poorest and most marginalized segments of the population tend to suffer from disproportionately higher levels of exclusion from the education system. In crisis and conflict-affected environments, all children are vulnerable to exclusion from education, given the macro-level context that may be characterized by conflict, fragility, permanent insecurity, natural hazards and health emergencies. Within this macro-level context, children may experience other access barriers related to the following individual and group background characteristics, including:

- Socio-economic status
- Gender
- Disability
- Geography (urban versus rural; sub-national regions)
- Forced displacement (e.g. refugees and internally displaced people)
- Ethnicity
- Language
- Nomadic/pastoralist lifestyle
- Seasonal migration
- Orphanhood
- Religion
- Previous association with fighting forces (former combatants, sex slaves, servants)

The specific individual and group level characteristics that may affect school access need to be considered for each crisis and conflict-affected context. For targeting equitable access and planning to measure it, we recommend that program conception and design begin by: (i) identifying the vulnerable population sub-group(s) most likely to include children and youth that are out-of-school or at risk of sporadic attendance and/or dropping out, as well as the individual and group background characteristics (equity dimensions) of these excluded children; and (ii) building a profile of these children and youth and the types of barriers they face to accessing education or staying in school. We recommend a collaborative approach to identifying equity dimensions by involving beneficiary communities through participatory research and education authorities and other key stakeholders through working group meetings.

To the extent possible, the process of identifying relevant equity dimensions should be embedded and fully integrated into initial educational needs assessments and situation analysis. For example, it can be conducted as part of a Rapid Education Risk Analysis ([RERA](#)), which is a rapid, “good enough” situation analysis that integrates education assessment, conflict analysis, disaster risk assessment and resilience analysis. Given constant population movements and shifts in conflict settings, it is also important for the analysis of relevant equity dimensions to be embedded into rolling assessments during the life cycle of the project. Continuous and ongoing assessments allow for a deeper investigation and for capturing changes in access barriers and the vulnerability situation of the relevant population sub-group(s).



This data collection and analysis for identification of equity dimensions is relevant to multiple phases of project design: as part of solicitation development by USAID missions, during proposal development by implementing partners and/or at project start-up to inform adjustments in the intervention design. Additionally, this information will be needed for the construction of context-specific equitable access indicators in a second phase.

Step 1.1: Identify relevant equity dimensions

We are developing a questionnaire to support donors and implementing partners in identifying marginalized and vulnerable population subgroup(s) most likely to include children and youth that are out-of-school or at risk of sporadic attendance and/or dropping out. Since some children face multiple exclusion factors, the questionnaire allows us to identify where equity dimensions intersect (e.g., poor rural girls, ethnic minority displaced children). The question: “which are the population sub-group(s) most likely to include out-of-school children and children at risk of dropping out?” guided the development of the questionnaire, which can be applied through individual interviews with different members of the local population (education officials, community leaders, NGOs staff). Additionally, the instrument asks respondents to prioritize the top three vulnerable/excluded groups that are least likely to participate in education activities. The instrument also includes a perception survey, which asks whether people perceive one group to be better off, equal to or worse off than other groups in regard to school access. The questionnaire is *CURRENTLY UNDER DEVELOPMENT*⁴.

Step 1.2: Build a profile of out-of-school children and children at-risk of dropping out

Building a profile of the out-of-school children within the population sub-group(s) identified in step 1.1 identifying the barriers they face to access education and stay in school will help shape and better target the project’s interventions. For instance, have the out-of-school children never accessed school or did they drop out? Do they complete primary education but fail to transition to secondary education? Or do they drop out soon after initial entry? Are they enrolled in school but at-risk of dropping out? To help projects answer these questions we are developing a questionnaire for individual interviews with in-school and out-of-school children that are part of the excluded population sub-group(s) previously identified. The Consortium for Research on Educational Access, Transitions and Equity (CREATE) Research program has a model called Zones of Exclusion (Figure 2 below),⁵ which guided the development of the questionnaire⁶. The questionnaire also collects basic socio-economic and demographic data such as household assets, gender, age, location of residence, and parents’ educational levels. To increase understanding of specific access barriers, the tool asks about specific *reasons* for attendance, non-attendance and irregular attendance as well as about perceptions of the quality and benefits of schooling. The questionnaire is *CURRENTLY UNDER DEVELOPMENT*⁷. We also

⁴ The questionnaire will be available at the Education Equity Research Initiative website (<http://www.educationequity2030.org/>) by June 2019.

⁵ Available at: <http://www.create-rpc.org/about/exclusion/>

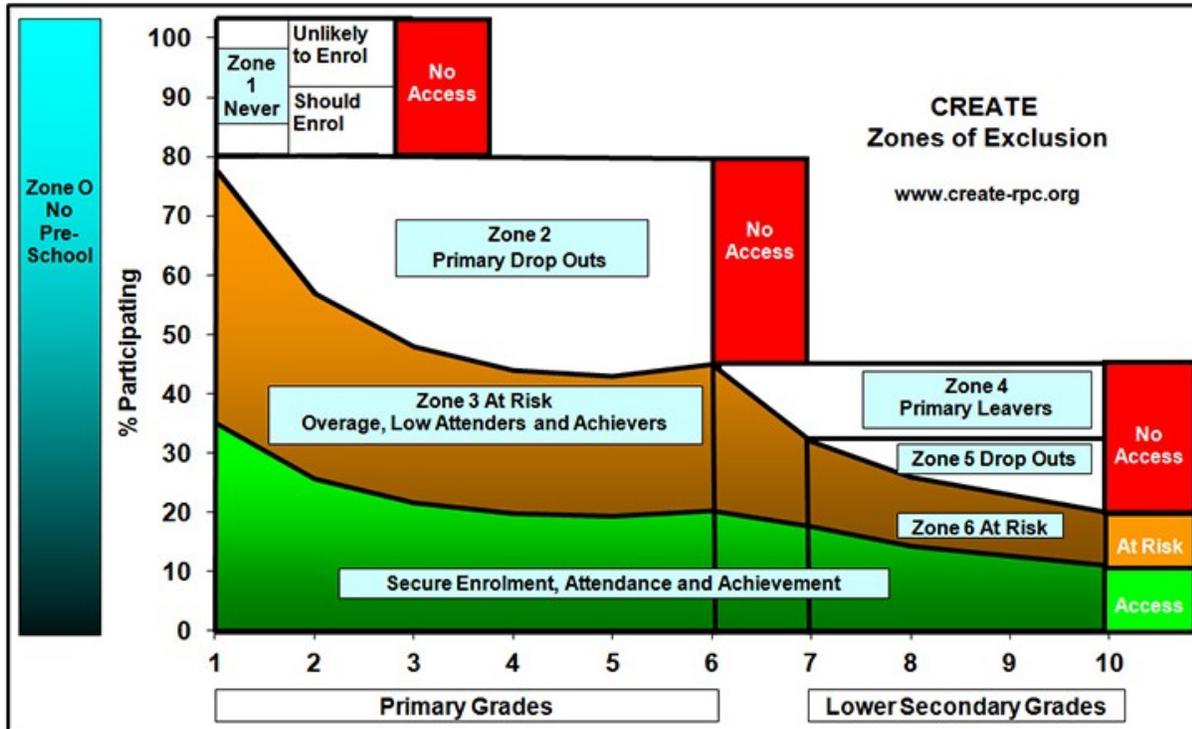
⁶ UNICEF and UNESCO Institute for Statistics also developed a similar conceptual framework, the five dimensions of exclusion, which analyzes the situation of out-of-school children and children at risk of dropping out. For more information please see Global Out-of-School Children Initiative Operational Manual, available at <http://unesdoc.unesco.org/images/0024/002475/247531e.pdf>

⁷ The questionnaire will be available at the Education Equity Research Initiative website (<http://www.educationequity2030.org/>) by June 2019.



recommend that donors and implementing partners conduct in-depth interviews and focus group discussions with children, parents, education officials and staff from local NGOs to get a deeper understanding into local barriers to access and stay in school.

Figure 2. CREATE Model of Zones of Exclusion



- **Zone 1** contains those who never attend school.
- **Zone 2** includes the majority of children who are excluded after initial entry, who drop out of school and fail to complete a full cycle.
- **Zone 3** includes those in school but at risk of drop out (overage students, repeaters, low attenders, low achievers)
- **Zone 4** contains those who fail to transit to secondary education.
- **Zone 5** includes those dropping out of secondary grades.
- **Zone 6** contains those at risk of drop out from secondary school (overage students, repeaters, low attenders, low achievers).
- **Zone 0** captures those excluded from pre-school.

Step 2: Define intervention



The second step in the sequence aims to identify what kinds of interventions might prove useful in promoting increased access to education based on the equity dimensions and barriers identified.

The choice of intervention should be based on the equity dimensions identified and the profile built on children out-of-school or at risk of dropping out, including the specific barriers to access or retention that educationally marginalized groups confront. We have developed a matrix of program interventions in crisis and conflict-affected contexts that aim to increase *access* to quality education and that include,



or potentially could include, explicit attention to improving *equity* by targeting particular marginalized groups for increased access. The matrix, available in Appendix A, indicates which intervention or set of interventions are most suited to targeting and promoting school access and/or retention among the specific population sub-group(s) most likely to include out-of-school children. The matrix can inform project designers' selection of specific interventions based on the context-specific equity dimensions, barriers, and zones of exclusion that the project has identified.

As an example of selecting an intervention for a formal school system, let us consider a crisis and conflict-affected situation where learners who have experienced internal displacement have been achieving significantly lower rates of primary completion (i.e., have higher dropout rates) than their peers of the local majority group. Research indicates that this retention gap results from these learners' low sense of belonging within the school related to their displaced status and experiences of conflict or crisis. An appropriate intervention in this situation could be the integration of Social and Socio-Emotional Learning (SEL) for the full pupil population in affected schools, with learning and affective outcome objectives that include resilience, empathy, appreciation of diversity, and pro-social skills.

Another illustrative example can be provided by considering the case of a recent conflict area where lengthy disruptions in educational provision have exacerbated pre-existing enrolment barriers, leaving large numbers of rural children and youth with no exposure to education but significantly overage to begin the primary cycle. In such a context, an Accelerated Education program would be an appropriate intervention, especially if designed on a schedule to minimize potential opportunity costs for participating children and youth, as well as with pedagogy and learning objectives that they perceive as highly relevant.

Step 3: Develop equitable access indicators

Education access indicators should aim to measure horizontal inequalities, which are inequalities among different subgroups in a society. Measuring horizontal inequalities in crisis and conflict-affected contexts is especially important, since these countries tend to have lower education access rates and are characterized by the largest disparities in access as a result of exclusion by poverty, gender, and urban/rural residence (EPDC, 2007). The process of developing equitable access indicators highlighted in the sub-steps below should be conducted in coordination and consultation with local stakeholders and education authorities, through workshops and-or working group meetings.





Step 3.1: Choose basic access/retention indicators for customization

The choice of performance indicators is directly linked to the specific access and retention objective(s) of the project (e.g., promote first time school entry, keep children currently enrolled in school, enroll children/youth in compensatory/accelerated education programs, etc.) and should be guided by the project's logical framework and theory of change. The most common indicators used to measure access to schooling are gross and net enrollment ratio and gross and net attendance ratio. School flow indicators, including promotion, repetition, and dropout rates by grade, are the most commonly used indicators for measuring school retention. Appendix B reviews the fundamental concepts and methods for calculating each of these key education access and retention indicators.

Building upon the intervention examples presented above, a project that features an SEL intervention to improve the in-school experience of children would focus on indicators of retention, dropout, and completion of the primary cycle; for a project that implements an Accelerated Education program, an indicator of initial enrolment would be essential, as would indicators for retention and completion that are customized to the specific intervention. We acknowledge that projects may include other indicators in line with its objects, - e.g., an SEL intervention may also include SEL specific indicators as well as learning outcomes. Nonetheless, in this guidance document, we focus specifically on indicators of access and retention.

Step 3.2: Apply identified equity dimensions

In the first step above, the relevant equity dimensions in the context were identified. This information informs the decision as to *between whom*, exactly, differences in access will be measured. For example, differences may be measured between two ethnic groups or between an IDP and a host population. This decision on groups of interest will be plugged into the indicator formulation.

Step 3.3: Choose equity metrics

For purposes of monitoring a project's progress and measuring its effect, **we recommend the use of metrics known as gaps or parity ratios**, as they may represent the easiest, most intuitive and relevant measures for calculating inequality⁸. In terms of measuring equity in education access, gaps and parity indexes compare the group with different levels of educational access. Examples include the difference in enrollment rates between males and females and the difference in the rate at which age-appropriate students enter primary school (intake) for rural and urban pupils. Gaps and parity ratios can be applied to any indicator of education access and retention and to any equity dimension *pairing* (e.g., male versus female). In cases where multiple exclusions apply, it is possible to isolate subgroups for comparison to identify disparities between extreme situations. For example, it is possible to calculate disparities in school access rates between wealthy urban boys and poor rural girls.

⁸ More sophisticated measures that can take into account three or more groups simultaneously include the group Gini and group Theil coefficients. A clear advantage of these coefficients relies precisely on this ability to capture horizontal inequality in a society with multiple groups (Mancini, Stewart, & Brown, 2010). However, a major drawback is the difficulty that non-technical users will face in calculating these coefficients and in intuitively understanding and straightforwardly interpreting the results. Hence, for purposes of monitoring and assessing equitable access, we focus our attention on ratio measures.



For equity dimensions that involve three or more groups (e.g., ethnicity, religion and/or language), development of gap and parity ratios can also be possible. This would involve comparing two different groups of interest (not necessarily the two largest) (Mancini, Stewart, & Brown, 2010) or comparing disparities between one dominant group and other minority groups combined. An alternative use of gaps or parity ratios is the ratio between education access for a given group and the national education access average, which measures the level of marginalization of that group (Omoeva and Hatch, 2015). Lastly, it is worth noting that when equity dimensions involve three or more groups, gaps and parity ratios may conceal important information about each sub-group (Mancini, Stewart, & Brown, 2010).

Step 3.4: Draft customized indicators

In this final step, inputs from steps 1 to 3 are combined to develop a final indicator of equitable education access. Table 1 below gives a practical example of how the step by step approach from 1 to 3 can inform the development of equitable education access indicators in practice.

Table 1. Example of step-by-step approach to developing equitable education access indicators

Step	Example of decision
Step 1: Choose access or retention measure	Intake rate
Step 2: Identify equity dimension	Disability
Step 3: Choose equity metrics	Gap
Step 4: Develop Indicator for Equitable Access	<i>Disability Gap in Intake Rates</i>

In this example, the indicator ***Disability Gap in Intake Rates***, which reflect disability disparities in accessing first grade of primary education, would be calculated using the following formula:

$$\left(\frac{\text{Number of non-repeating students without disability in Grade 1}}{\text{Population of non-disabled students of primary grade 1 age}} \right) - \left(\frac{\text{Number of non-repeating students with disability in Grade 1}}{\text{Population of disabled students of primary grade 1 age}} \right)$$

Note that (as described above in the definition of “gap”) this formula yields a simple difference between two intake rates that are each expressed as percentages. The resulting value will thus be a percentage. The absolute gap found after calculating the indicator would be interpreted as the amount by which it would be necessary to increase the intake rate for students with disability to achieve equity between the two groups.

Table 2 provides a concrete example using hypothetical data. The intake rate for non-disabled students is 83% (5,000/6,000), while the intake rate for disabled students is 25% (100/400). The disability parity index is 58%; meaning that the intake rate for disabled students would have to be increased by 58 percentage points for equity to be achieved.

Table 2. Disability Gap in Intake Rates

Disability Status	Non-repeating Students in Grade 1	Population of students of primary grade 1 age	Intake Rate
Non-disabled	5,000	6,000	5,000/6,000 = 83%
Disabled	100	400	100/400 = 25%
Disability Gap in Intake Rate = 58 % (83%-25%)			



By combining different access-retention measures with different equity dimensions and equity metrics, a number of indicators can be developed. Table 3 provides a non-exhaustive list of indicators of equitable education access and retention that might be relevant in crises and conflict-affected contexts and can be developed using the step by step approach.

Table 3. Equitable education access and retention indicators

Access – retention Measure	Equity Dimension	Equity Metrics	Indicator	Formula
Gross Intake Rate	Displacement (IDPs, Refugees, Asylum seekers)	Gap	Gaps in Primary Level Gross Intake Rate by displacement status	$(\text{Number of non-repeating host community students in primary Grade 1} / \text{Host community population of the theoretical age of primary Grade 1}) - (\text{Number of non-repeating forcibly displaced students in primary Grade 1} / \text{Forcibly displaced population of the theoretical age of primary Grade 1})$
Promotion rate	Gender	Parity Index	Gender Parity Index for Promotion Rate	$(\text{Number of non-repeating female students in Grade } i \text{ for Year } t / \text{Number of female students in Grade } (i-1) \text{ for Year } t-1) / (\text{Number of non-repeating male students in Grade } i \text{ for Year } t / \text{Number of male students in Grade } (i-1) \text{ for Year } t-1)$
Gross Enrollment Rates	Displacement (IDPs, Refugees, Asylum seekers)	Gap	Gaps in Primary Gross Enrollment Rates by displacement status	$(\text{Number of host community children enrolled in primary education} / \text{Host community population of the theoretical age of primary education}) - (\text{Number of forcibly displaced children enrolled in primary education} / \text{forcibly displaced population of the theoretical age of primary education})$
Gross Enrollment Rate	Wealth, displacement, gender	Gap	Gaps in Secondary Gross Enrollment Rate between wealthy host community boys and poor IDP girls	$(\text{Number of wealthy host community male children enrolled in secondary education} / \text{Wealthy host community male population of the theoretical age of secondary education}) - (\text{Number of poor forcibly displaced female children enrolled in secondary education} / \text{poor forcibly displaced female population of the theoretical age of secondary education})$
Dropout rate	Religion	Gap	Gaps in 6 th grade dropout rate between religious group X and the national dropout rate average	$[100\% - (\text{promotion rate for all students in grade 6 in year } (t) + \text{repetition rate for all students in grade 6 in year } (t))] - [100\% - (\text{promotion rate for students from religious group X in grade 6 in year } (t) + \text{repetition rate for students from religious group X in grade 6 in year } (t))]$



Step 4. Conduct data inventory and quality assessment



In addition to the broader challenges to measuring access and retention applicable to any context, key challenges also arise in information management and measurement in crisis and conflict-affected contexts related to the availability or reliability of data. Often, population census, household survey and/or administrative data are non-existent or not available. When available, using household survey data to calculate education access rates may overestimate the actual numbers as they often exclude the most marginalized populations, who tend to be the ones out of school (e.g., mobile, nomadic or pastoralist populations or populations living in unsafe areas and areas experiencing violence). Administrative data collected in crisis and conflict-affected settings may also be biased if they omit conflict-affected locations or only reaches formal education. Schools in conflict areas may not be covered in school census used to populate Education Management Information System (EMIS) data (EPDC, 2010). Another issue resides on the definition of “in-school” adopted by administrative datasets. Often Accelerated Learning Programs and refugee education programs are considered non-formal, and enrolled children are not counted as “in school”, despite the fact that many of these programs are designed to allow children to ‘catch up’ to the appropriate formal education level.

Given the potential issues with data availability and reliability, we propose that projects conduct a thorough data inventory and data quality assessment.

Step 4.1: Conduct an inventory of existing data sources

Having up-to-date data on population estimates and enrollment data is key to calculating most indicators of education access. This is especially challenging in crisis and conflict-affected contexts given constant population movements and shifts. Existing national census data usually serve as the foundation for measuring populations. They can, however, be complemented by up-to-date subnational population data collected by humanitarian organizations as part of their ongoing efforts to measure population movements and shifts.

The total population in a country or region affected by crises and conflict can be estimated as following:

The total population = (All population living within the boundaries of the country + all population that has entered the boundaries of the country from another origin (incoming refugees, third country nationals, migrants)) – (All population that has left the country (all people that have been displaced outside of the boundaries of the country))

Source: Inter-Agency Standing Committee (IASC) Information Management Working Group (2016)

To assess the availability of data, the first step is to conduct a detailed inventory of all existing data sources relevant to calculations of school access and retention indicators. Data sources should be accompanied by their supporting documents, which can be helpful in the data quality assessment phase. Given project monitoring needs for up-to-date data and re-occurring data, it is important to also identify the date when the last data collection and reporting took place as well as the upcoming data collections and frequency of reporting.



Traditional data sources to consider include the following⁹:

- Administrative data (e.g., Education Management Information System (EMIS) data).
- Population census
- Household Surveys:
 - [Demographic and Health Surveys \(DHS\)](#)
 - [Multiple Indicator Cluster Surveys \(MICS\)](#)
 - [Living Standards Measurement Studies \(LSMS\)](#)
 - [The International Household Survey Network](#)
 - Other national and/or regional household surveys

The full datasets, which are often needed to calculate customized equitable access indicators, might be available online or upon request to each of the specific sources highlighted above.

Additionally, authoritative sources of population projections may exist and be available online:

- United Nations demographic estimates and projections, available at the [United Nations Population Division webpage](#).
- [United Nations Statistics Division central repository of country profiles of statistical systems](#)
- [The international Data Base of the United States Census Bureau](#), which offers projections for different countries and areas of the world:
- The [United States Census Bureau list of international statistical agencies](#):
- The [World Gazetteer](#), which offers a set of population data and related statistics for different administrative divisions, areas, cities, towns and places.

Where administrative, household survey data and/or projections are not available, alternative methods have been adopted by humanitarian agencies to estimate reference population numbers, which are needed to calculate school access. A variety of methods have been proposed, ranging from simple counts of individuals, to sampling and extrapolating information in affected areas and using proxy measures of population size and distribution with remote sensing methods. Humanitarian agencies also often adopt flow monitoring, which counts people as they pass a given point (crossroads, bridge, ford, mountain pass, etc.). These methods have been used individually or in combination to estimate total affected populations or displaced persons and to crosscheck figures reported by the affected population themselves or by local authorities.

Overall, data collected by humanitarian and other organizations on population shifts and estimates can be important sources of information in crisis and conflict-affected contexts. Examples include the following:

- [Humanitarian Needs Overviews and Humanitarian Response Plans](#), United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) and Cluster/Working Group partners
- [Displacement Tracking Matrix \(DTM\)](#), International Organization for Migration (IOM)
- [Global Internal Displacement Database \(GIDD\)](#), Internal Displacement Monitoring Centre (IDMC)

⁹ The Education Policy and Data Center (EPDC) aggregates administrative data, household survey data and learning outcomes data from around the world. It can be a helpful resource in assessing the availability of education-related secondary data for any particular country.



- [Operational Data Portal on Refugee Situations](#), United Nations High Commissioner for Refugees (UNHCR)
- [Population Statistics Database](#), United Nations High Commissioner for Refugees (UNHCR)
- [Demography, Migration, and Population Data](#), Organization for Economic Cooperation and Development (OECD) Statistics
- [World Population Prospects and Trends in International Migration Stock Data](#), United Nations Department of Economic and Social Affairs (UN DESA), Population Division
- [Demographic and SDG4 Data](#), UNESCO Institute for Statistics (UIS)

Step 4.2: Conduct a data quality assessment

Given the measurement challenges in crisis and conflict-affected contexts, it is key to conduct a data quality assessment to identify potential data gaps, limitations and problems that can interfere in the calculation of equitable access indicators. Lack of disaggregated data could be a potential problem for calculating equitable access indicators. Pre-conflict data can be used to produce disaggregated estimates, but it should be used with caution, as changes in demographic patterns might have occurred as a result of the conflict.

For each data source, use its supporting documents to answer the following questions related to data completeness and accuracy:

Administrative data:

- Do data permit disaggregation by relevant equity dimensions?
- Is there a pre-determined period of absenteeism that is considered as having dropped out?
- Do data include enrollment in non-formal education?
- Are there data gaps for certain regions?

Household survey data:

- Do data permit disaggregation by relevant equity dimensions?
- Are there data gaps on out-of-school children or for certain regions or subgroups of the population?
- Do survey background documents support accuracy of children's birth dates?

Humanitarian data:

- Do data permit disaggregation by relevant equity dimensions?
- Are there data gaps for certain population subgroups?
- Are there data gaps for certain regions?

As part of the data quality assessment it is very important to examine how the equity dimension of interest is being captured and measured by these secondary data sources. Equity dimensions that may be key in conflict and fragile contexts, such as forced displacement, ethnicity, language, among others, are generally not included within administrative data sources (e.g., a national EMIS). Most often household surveys, such as the DHS, MICS, LSMS, or other national surveys, are the main source of information that allow for disaggregation on potentially relevant equity dimensions. *Practical*



*Recommendations for Equity Analysis in Education*¹⁰ from the Equity Initiative provides best practices for capturing and measuring key equity dimensions to help program implementers ensure that dimensions are consistent across project and studies.

Step 5. Conduct primary data collection, as needed



Based on the results from the data inventory and data quality assessment, primary data collection might be needed to fill the gaps.¹¹

Step 5.1: Conduct school survey to obtain information on the number of enrolments

Where population data are available (either from national census and-or subnational data from other organizations), but administrative-school data is not, calculating access indicators will require collecting data at the school level to obtain information on the number of enrolments by age, grade and relevant population sub-groups. Given that many schools do not keep updated registers, before undertaking a school survey project staff should consider promoting efforts to build the capacity of school administrators to maintain adequate enrollment registers. Provision of proper supporting tools, such as enrollment register templates, might be necessary in this process.

Step 5.2: If feasible, conduct household survey to monitor school access for each of the disadvantaged groups

Where data is not available or is not reliable, household surveys can be used to identify IDPs or other marginalized sub-groups within a larger population group. In this case, a cross-section of the population would be interviewed to be able to compare differences in school access between IDPs and/or other vulnerable groups and the local population. Guidance for determining sample size by population subgroup is provided in *Practical Recommendations for Equity Analysis in Education*¹².

Household surveys can be helpful tools in tracking the impact of the intervention among those children that are part of disadvantaged groups in terms of school access. This method is applicable when ground conditions are stable (IDMC and OCHA 2007), as ongoing conflict and security concerns might jeopardize data collection efforts. While not designed to produce estimates of population size per se, information

¹⁰ Available at: <http://www.educationequity2030.org/s/Practical-Recommendations-FINAL-1.pdf>

¹¹ Bear in mind that it is essential for any primary data collection to be conducted in a **conflict sensitive** manner that adheres strictly to the **Do No Harm** principle. Of particular concern for the present purposes is ensuring the confidentiality and security of data on individuals' identity group membership (such as ethnicity or displaced person status). Furthermore, for information on both educational participation and on background populations it should not be necessary to collect data directly from children, and we recommend using alternative respondents whenever possible. If it is ever necessary to consult children directly for this data, the strictest ethical and risk-reducing protocols must be in place. We recommend consulting international guidance such as [Ethical Research Involving Children](#) from the UNICEF Office of Research.

¹² Available at: <http://www.educationequity2030.org/s/Practical-Recommendations-FINAL-1.pdf>



on age and sex composition derived from a sample survey could be applied to total population estimates to obtain an estimate of school-age children (Koedam, 2012).

By design, household surveys have the potential to ‘uncover’ difficult- to- locate IDPs and/or other marginalized sub-groups who may be living in host families but have not been previously identified (IDMC and OCHA 2007). Specific sampling methods can also be designed with the purpose of improving access to hard- to- reach populations and enable project M&E staff to collect data on previously identified marginalized population sub-group(s). Sampling techniques that have been used to collect information on hard to reach populations include the following:

- **Snowball Sampling:** works like chain referral: initial informants nominate other informants from their social network, these individuals in turn nominate those they know.
- **Respondent Driven Sampling:** combines snowball sampling with a mathematical model that weights the sample to compensate for the fact that the sample was collected in a non-random way.
- **Time Location Sampling:** takes advantage of the fact that the priority population attend a universe of venues at identifiable and specific days and times.
- **Targeted Sampling:** “controlled lists of specified populations within geographical districts are developed and detailed plans are designed to recruit adequate numbers of cases within each of the targets” (Watters & Biernack, 1989, p. 420)

The choice of sampling method should be guided by the specific characteristics of the marginalized population sub-group(s), local context and conditions, as well as the method’s ability to potentially reach all members of the target population (Raymond et. al., 2007). We are developing a guide to choosing a sampling methodology and conducting surveys targeted at hard to reach populations.

Alternative methods

Where population estimates are not available and primary data collection through a household survey is not an option (because of security constrains, time limitation, or other), some of the most common methods to estimate population size in emergency contexts highlighted by IDMC and OCHA (2007) include the following¹³:

- **Rapid Population Estimations:** suitable for estimating the numbers and basic characteristics of the population in a short period of time
 - Area survey: relies on aerial/satellite imaging to estimate numbers
 - Dwelling count: counts the entire number of huts or dwellings in a given area
 - Headcount: counts the entire number of people living in an area
 - Headcount/dwelling count using sampling methods: counts a subset of the population or dwellings and extrapolates the results to estimate the overall population figures.
- **Qualitative methods:**
 - Focus groups: group discussion with the aim to better understand the IDP population.

¹³ For a more exhaustive and detailed review of methods which have been incorporated by humanitarian agencies or that are of potential for use in estimating human population size in emergency contexts see Koadem (2012).



- Key informant interviews: conducted for a very small number of pre-selected people who may hold relevant information.
- Delphi exercise: As outlined in UNHCR (2013) Information Management Toolkit: *“The Delphi method brings together a group of experts to reach a consensual opinion about a situation, such as the numbers and locations of people affected by a crisis. It is recommended to have about 15 to 20 experts on a Delphi panel with combined knowledge and expertise. Panelists should be well informed on the topic at hand, and should have experience with predicting population movement patterns and numbers. The panel may include decision-makers, demographers, behavioural scientists, emergency responders, nutritionists or people with knowledge of the affected area. It may also include researchers and key informants at the regional, national or provincial level who know the culture and behaviour of the affected people”.* (p. 37)



Step 6. Calculate equitable access indicator(s) on an ongoing basis

Once steps one through five are in place, projects can calculate equitable access indicators on an ongoing basis. We recommend that projects register and summarize the previous steps in a Performance Indicator Reference Sheet (PIRS), which clearly defines the indicator, describes the data sources identified, and establishes reporting frequency, among other things. If primary data collection is needed to calculate the indicator(s), the PIRS will also contain a brief data collection plan — the actors involved in data collection (who), the mode (how), the frequency (when), the location (where) and data movements between points (e.g., from the point of data collection to the aggregation point). PIRS are helpful in guiding projects in the calculation and reporting of the indicator(s) throughout its life cycle on an ongoing basis. We provided illustrative PIRS for equitable access indicators in Appendix C.

Upon calculation of the indicator, dissemination of its performance on an ongoing basis to appropriate audiences including local communities, education authorities, donors, and other key local stakeholders can help galvanize support and engagement for discussions around equitable access to educational opportunities. In addition, dissemination of findings on indicator performance to key stakeholders during the project’s annual work planning process can help spur discussion and reflection and incorporation of those findings into improved programming.

III. Recommendations for standardized equity indicators

As outlined in the introductory section, there is a need for more standardized data on equitable education access that allows for comparison, and ideally aggregation, across projects. In response to the data availability challenges faced by projects in crisis and conflict-affected settings, we propose **two output indicators of access** that can be calculated *in the absence of information on the reference population*. We define two separate output indicators as opposed to one equitable access outcome indicator as we recognize that not all projects will have access or will be able to collect data on population parameters, which are needed to calculate education access *rates*. To derive data for the two indicators proposed, projects can utilize EMIS or other national education data when available, or conduct their own school or learning center survey to obtain enrollment information.



The indicators we recommend are an adaptation of an existing standard foreign assistance indicator¹⁴ within USAID [Education and Social Services Education and Social Services Indicator Reference Sheet](#), which is Indicator ES. 4-1: *Number of vulnerable persons benefiting from USG-supported social services*. Given that crisis and conflict-affected settings are home to the vast majority of *forcibly displaced populations* (refugees and internally displaced people) and that these population sub-groups often face exacerbated levels of exclusion and disproportionate barriers to accessing education, we focus on them as our key equity dimension, rather than focusing on vulnerability more generally. Our rationale for defining two separate indicators derives from recognition that a key challenge in conflict and crisis-affected environments is for practitioners to be *conflict-sensitive* in their approach to educational provision, which centrally involves balancing the needs of displaced populations with the needs of the host communities in which (or near which) they have been settled. In these scenarios, providing education services *only* (or primarily) to the displaced population (or *only* to the host communities) has high potential to create conflict between those groups. Even when the displaced communities are indeed the most vulnerable and face the greatest need, implementers must consider strategies for preventing resentment in host communities and tension between groups. Part of this strategizing should be selection of indicators that are *conflict-sensitive*, meaning that they:

- are based on deep understanding of the conflict and context,
- help focus continued attention on conflict sensitivity of project approaches,
- enable reporting that signals sensitivity to all key equity groups.

Our common indicator recommendation for these contexts is summarized below.

Table 4. Education Equity Research Initiative’s recommendation for common equity indicators

Proposed Indicators	Advantage	Limitation
1. Number of host community persons benefiting from USG-supported education services 2. Number of forcibly displaced (IDP/refugee) persons benefiting from USG-supported education services	By defining <i>two separate</i> indicators (rather than one single indicator that would be disaggregated for the two groups), our approach is to encourage projects to consider existing access barriers faced <i>by both groups</i> , to explicitly and purposefully address them, and to measure progress towards overcoming them.	As discussed above, since it does not reference the underlying population, it cannot claim to measure changes in education access <i>rates</i> for that population.

¹⁴ The standard foreign assistance indicators are indicators developed by the U.S. Agency for International Development (USAID) to measure and illustrate what foreign assistance accomplishes. Standard foreign assistance indicators measure both the outputs directly attributable to the U.S. government as well as outcomes to which the U.S. government contributes. For more information please visit USAID webpage: <https://www.state.gov/f/indicators/>



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Appendix A – Intervention matrix

Background and instruction on how to use the matrix:

The matrix is here presented as a *conceptual* analysis of educational interventions and is not intended to provide a systematic comparison of the evidence available for the various interventions. It is also important to note that we include in the matrix interventions for which there may be little information available specific to EiCC applications, but which have been documented to a greater extent in more stable least developed country (LDC) contexts characterized by related horizontal equity dynamics and equity access barriers. Additionally, we point out that many of the interventions included in the matrix are not *solely* conceived to improve equity of access (or even primarily conceived to increase access in general); many interventions can be hypothesized (or indeed have been demonstrated) to improve access more indirectly. For example, interventions may directly target educational *quality* and equity of *learning outcomes* via improvements in the learning environment, including reduction of discrimination and other negative and inequitable in-school experiences. When successful, and targeted at marginalized groups, such quality interventions may be expected to lead to increased enrolment demand and/or decreased dropout and failure rates for these groups.

Interventions in the matrix are broadly categorized as those that may be implemented within a formal school system, and those that typically constitute “non-formal” programs or “alternatives” to formal schools. This categorization is not intended to be rigid, however; several of the interventions that are listed in the formal school category (those marked with an asterisk) are in fact pedagogical innovations that have featured prominently in non-formal, alternative programs. Interventions in the formal school category are broadly subdivided further into *service delivery* (or supply-side) interventions, *participatory/empowerment* interventions, and *demand side* interventions.

The matrix’s second column indicates the assumed *equity barrier or barriers* that each intervention is designed to address, implying a Theory of Change (ToC) (i.e., *if* this barrier is reduced or eliminated, then more learners will enroll or remain in educational programs). The third column suggests the *equity dimensions* in the population that the intervention can be reasonably hypothesized to benefit by reducing their access equity gaps. The final column in the matrix specifies the *zone(s) of exclusion*. The term “zone of exclusion” refers to the educational level or levels from which affected children are excluded and thus the level or levels at which the intervention seeks to create greater access. Note that a *zone of exclusion* may be caused by issues affecting either initial enrolment levels or retention levels.

Below the matrix is a web link to an active spreadsheet that constitutes a more detailed and sortable matrix, including references to available studies on the interventions.



Table 5. Intervention Matrix

Intervention	Specific barriers addressed / ToC (See definitions below)	Equity dimension likely benefitting	Zone(s) of Exclusion targeted
<i>Formal School/System: Service Delivery</i>			
<i>School construction</i>	distance	residence (rural) ; potentially: <i>gender, ethnicity, language, pastoralist livelihoods</i> ¹⁵	Children who never enroll; primary dropouts; non-entrants to secondary; distance may delay on-time school entry
<i>Retrofitting existing school structures (learning spaces, latrines, etc.)</i>	perceptions of quality and safety	Gender, disability	Children who never enroll; primary dropouts
<i>Double shifts</i>	insufficient school space and/or teachers; perceptions of quality (overcrowding)	<i>Potentially: gender, ethnicity, language</i>	Children who never enroll; primary dropouts
<i>Reducing pupil-teacher ratio*</i>	perceptions of quality and achievement	<i>Potentially: gender, language</i>	Children who never enroll; primary dropouts
<i>Familiar language instruction*</i>	perceptions of relevance, quality, and achievement	language; poverty	primary dropouts
<i>Socio-emotional learning (SEL)*</i>	perceptions of safety, relevance, and achievement; social discomfort	Forced displacement; gender; ethnicity; poverty; ex-combatant status; disability; Orphanhood	primary dropouts; non-entrants to secondary; secondary dropouts
<i>Remedial classes</i>	perceptions of achievement	gender, language, poverty	primary dropouts; non-entrants to secondary; secondary dropouts
<i>Girls' schools and female teachers*</i>	perceptions of relevance; perceptions of safety; social discomfort	Gender; ethnicity; religion	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Gender Responsive Pedagogy*</i>	social discomfort; perceptions of achievement and relevance	gender	primary dropouts; non-entrants to secondary; secondary dropouts
<i>provision of female sanitary wear</i>	taboos; social discomfort	gender	primary dropouts; non-entrants to secondary; secondary dropouts
<i>reproductive health lessons*</i>	pregnancy; STIs; taboos; social discomfort	gender	primary dropouts; non-entrants to secondary; secondary dropouts
<i>girls' clubs and boy's clubs</i>	perceptions of relevance; social discomfort	gender; forced displacement; ethnicity	primary dropouts; non-entrants to secondary; secondary dropouts

¹⁵ Even among rural dwellers, long distances to school may often be expected to disproportionately affect girls, as well as certain ethnic and language groups, and those involved in certain traditional livelihoods (pastoralist or even agricultural).



Intervention	Specific barriers addressed / ToC (See definitions below)	Equity dimension likely benefitting	Zone(s) of Exclusion targeted
<i>sport / games*</i>	perceptions of relevance; social discomfort	gender; forced displacement; ethnicity	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Preschool</i>	readiness to learn in primary school; perception of relevance and achievement	Residence, poverty, livelihood	Children excluded from pre-school; children who never enroll; primary dropouts
Formal School: participation / empowerment			
<i>Community participation in early childhood development</i>	readiness to learn in primary school; perception of relevance; parental / community (dis)empowerment; costs: monetary, opportunity	Residence, poverty, livelihood, forced displacement	Children excluded from pre-school; children who never enroll; primary dropouts
<i>Community monitoring*</i>	perceptions of quality; parental / community (dis)empowerment	Residence, poverty, livelihood, forced displacement	primary dropouts; non-entrants to secondary; secondary dropouts
<i>PTA financial support</i>	perceptions of quality; parental / community (dis)empowerment	Residence, poverty, livelihood, forced displacement	primary dropouts; non-entrants to secondary; secondary dropouts
Formal Schools: Demand Side			
<i>Fee abolition*</i>	costs: monetary	Poverty, livelihood, gender, disability ¹⁶	Children who never enroll; primary dropouts
<i>Information campaigns / enrollment drives*</i>	perceptions of relevance	Residence, livelihood, gender, poverty, religion, ethnicity, disability, language	Children who never enroll; primary dropouts; non-entrants to secondary
<i>In kind (material support): school feedings and take-home rations</i>	costs: monetary, opportunity	Poverty, residence, livelihood, gender, disability	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>In kind (material support): medicines</i>	costs: monetary; poor health (affecting retention)	Poverty, residence, livelihood, gender	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>In kind (material support): education kits and uniform</i>	costs: monetary	Poverty, residence, livelihood, gender	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Conditional cash transfers</i>	costs: monetary, opportunity; perceptions of relevance	Poverty, residence, livelihood, gender	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Unconditional cash transfers</i>	costs: monetary, opportunity; perceptions of relevance	Poverty, residence, livelihood, gender	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Scholarships</i>	costs: monetary	Poverty, gender	non-entrants to secondary; secondary dropouts

¹⁶ For some demand-side interventions (e.g., fee abolition, cash transfers, in-kind support) it is hypothesized that the resulting changes in families' cost-benefit calculus may especially tip the scale in favor of sending girls and disabled children to school.



Intervention	Specific barriers addressed / ToC (See definitions below)	Equity dimension likely benefitting	Zone(s) of Exclusion targeted
<i>In kind (material support): vouchers</i>	costs: monetary; perceptions of quality	Poverty, gender, residence	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
Non Formal			
<i>Distance learning programs, including with ICTs</i>	<i>distance; costs: opportunity</i>	Residence, gender, disability	non-entrants to secondary; secondary dropouts
<i>Accelerated learning programs</i>	costs: opportunity; perceptions of relevance	Poverty, residence, gender, livelihood, religion, disability	Children who never enroll; primary dropouts;
<i>Non-formal learning centers</i>	perceptions of relevance	Poverty, residence, gender, livelihood, religion, disability, language	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Literacy with vocational skills</i>	Perceptions of relevance	Poverty, residence, gender, livelihood, language	Children who never enroll; primary dropouts; non-entrants to secondary; secondary dropouts
<i>Community or village schools</i>	distance; perceptions of relevance, safety; costs: monetary, opportunity	Residence, ethnicity, poverty, gender, livelihood, religion, disability, language	Children who never enroll; primary dropouts
<i>Home-based schools</i>	Perceptions of safety; costs: monetary	Residence, ethnicity, poverty, gender, livelihood, religion, disability, language	Children who never enroll; primary dropouts

* Indicates that intervention can also be a feature of alternative, non-formal programs.

Link to active spreadsheet of Intervention Matrix at: <http://www.educationequity2030.org/resources-2/2018/11/13/access-equity-interventions-matrix>

Definitions of barriers in Intervention Matrix above:

- Perceptions of quality: parents and students perceive schooling to be of low quality, suppressing initial enrolment and raising dropout.
- Perceptions of safety: parents perceive schools (and travelling to and from schools) to have safety risks.
- Perceptions of relevance: parents and pupils perceive available schooling as lacking sufficient economic, social, and cultural utility, or even as culturally alienating and / or economically counterproductive.
- Perceptions of achievement: once enrolled, pupils experience academic failure and discouragement, leading to dropout.
- Social discomfort: once enrolled, pupils feel stigmatized, bullied, teased, harassed, and/or alienated from peers.
- Parental / community (dis)empowerment: lack of sense of ownership and / or understanding of schooling (often related to perceptions of relevance).

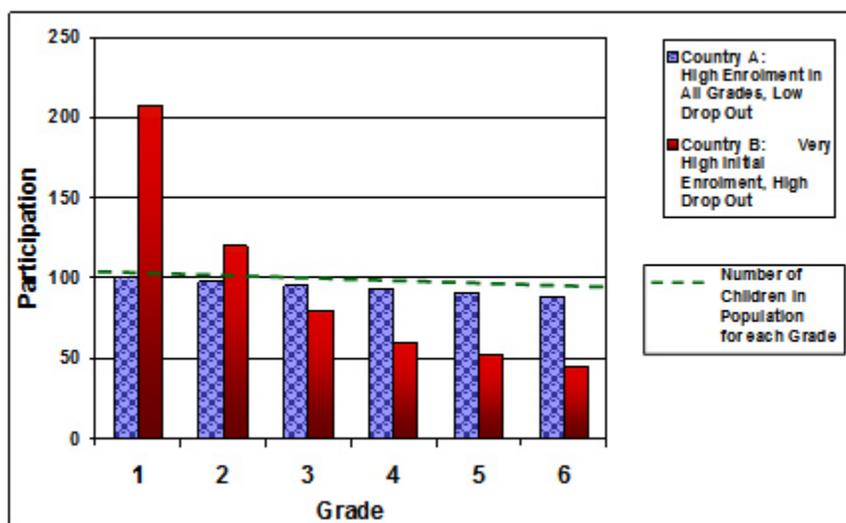


Appendix B – Measurement of school access and retention

Access

The most common set of indicators used to measure access to schooling are **enrollment** and/or **attendance rates**, generally stated as ratios. The *gross enrolment ratio* (GER) is defined by the UNESCO Institute for Statistics (UIS) as the number of students enrolled in a given level of education, *regardless of age*, expressed as a percentage of the official school-age population corresponding to the same level of education. The net enrolment rate (NER) is the same except that the numerator is the number of *age-appropriate* students enrolled. One drawback of GERs and NERs is that, when taken as a measure for the primary cycle as a whole, they can mask important disparities in the composition of enrollments by grade and age (CREATE, 2017). Figure xx illustrates how two countries with different enrolment patterns by grade can have the same primary level GER. The NER would be similarly affected, assuming that all or most of the pupils fall within an age range appropriate to primary school. To avoid this problem, citing *grade specific* enrolment rates can provide more insight than cycle length GERs (CREATE, 2017).

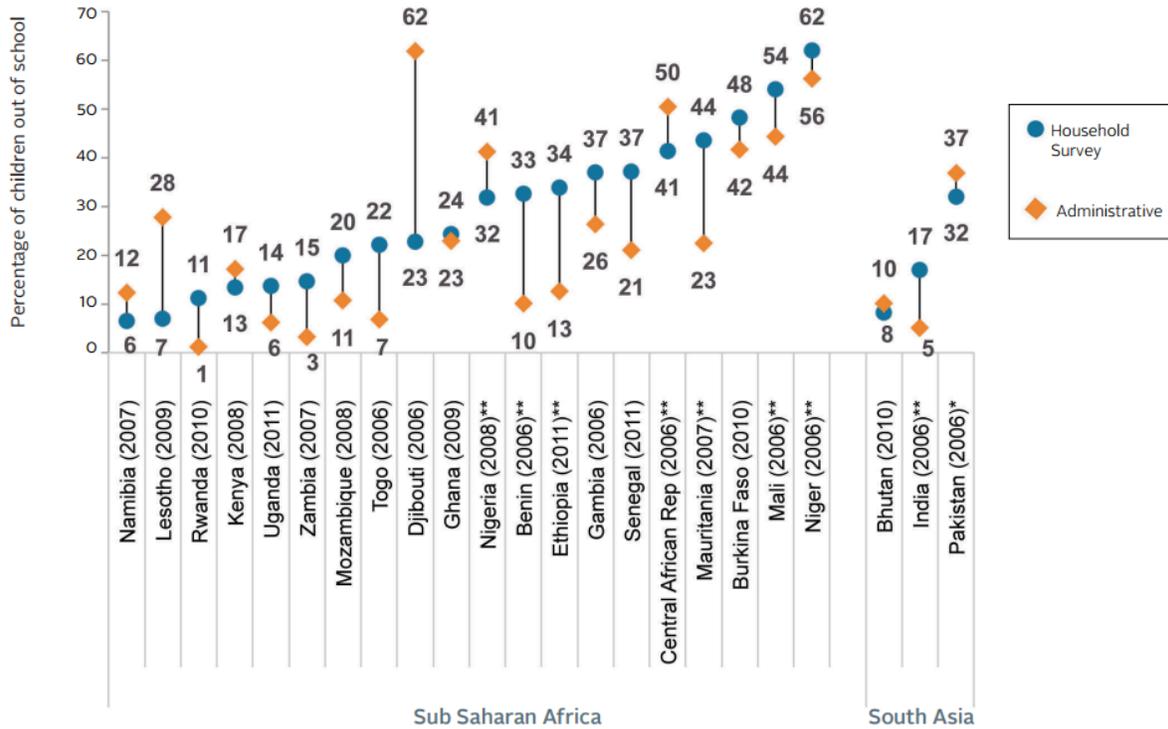
Figure 1. Similar primary level GERs for two different countries with different enrollment patterns



In theory, the distinction between *enrollment* and *attendance* is related to the source of the data. Enrollment is taken from school registers, while attendance is measured through a household survey. In the former, a school administrator is the source of the data (i.e., the measure is at the school-level), while in the latter, the source of the data is a household member (the measure is at the household-level.) Because of how these indicators are measured, they can at times give varying estimates of school access. The figure below provides an example of how different data sources can yield different estimates of schooling access. It shows the percentage of children out of school (which is derived from enrollment and attendance rates), according to whether it was measured at the household or at the school-level (administrative) for the same year. As can be seen, in some countries there is a large difference between estimates.



Figure 3. Estimates of school access, household survey versus administrative sources [1]



Discrepancies may be due to different measures of education participation found in administrative data and household surveys (UNICEF, UIS, 2015). Administrative sources usually report enrolment at the beginning of the school year (UNICEF, UIS, 2015). By contrast, household surveys may estimate educational participation by asking whether the student attended school “at any point” during the school year. Differences between both sources of data might also be due to reliability of age information (UNICEF, UIS, 2015). School administrators may lack accurate age information on the students enrolled. They may also over report or under report enrollment information, depending on existing system incentives. In household surveys inaccuracies may be introduced by the typical practice of having one respondent provide age information for all household members. Household survey data has also suffered from omission of children’s age adjustment back to the beginning of the school year.¹⁷

Finally, **intake rates** are similar to enrollment and attendance, except their reference is a single year’s age, which is the official age of entry into primary school. In this way, intake rates can be thought of as “initial” access to school. Otherwise, intake rates are measured in similar fashion to enrollment and attendance, and the same caveats apply. Other measures of access such as **on-time, over-age, and under-age enrollment** may give an idea about the efficiency of a given schooling system, in terms of how it is serving children of the designated population group. It is also possible to measure access to school by asking respondents about their **highest level of completed schooling**. This is common with

¹⁷ For example, a child recorded as six years old at the time of the household survey may be counted as “out of school”, although she was actually only five at the beginning of the school year and thus not eligible to enroll.



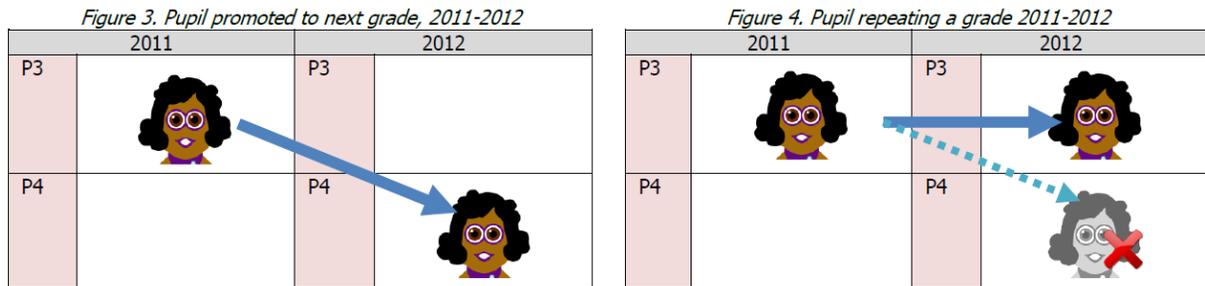
surveys of youth, and can give an idea about access to schooling in the recent past, but should not be considered preferable to current enrollment/attendance rates.

Retention

School flow indicators are the most commonly used indicators for measuring school retention. These include **promotion, repetition, and dropout rates** by grade. At the national level, to calculate them requires data on enrolment and repeaters by grade across two school years.

According to UIS, the repetition rate by grade is measured as the number of repeaters in a given grade in a given school year (t), expressed as a percentage of enrolment in that grade in the previous school year (t-1.) Rather than collecting separate data on “promoters” or “dropouts” (as is done with repeaters), the promotion and dropout rates are instead calculated as proxies, and tied to enrolment and repeater numbers. For example, the promotion rate is calculated as enrolment – (minus) repeaters for a given grade (i) and school year (t), divided by enrolment in the preceding grade (i-1) in the previous school year (t-1). Lastly, the dropout rate is determined by subtracting the promotion and repetition rate from 100% for that school year (t). Figure xx below provides an example demonstration of how flow rates are explained in easy to understand terms.

Figure 4. Pupil flow rates[4]



The measurement of pupil flow rates can be complicated by policies such as automatic grade promotion, which stipulate that children should be passed to the next grade regardless of academic performance. Such policies have been passed in recent years as a way to deal with overcrowded classrooms, although in some countries and subnational regions, the policy may be disregarded. There can also be confusion, particularly at the school level, as to what constitutes a “repeater”, as some pupils enter and leave school throughout the school year if they are required to assist with household labor or chores. Additionally, students transferring between schools can complicate the interpretation and reliability of this indicator.

Survival rates are similar to school flow indicators; survival rates are also tied to enrollment, repeater, and dropout numbers over consecutive years. If data are unavailable, the same flow rates are assumed from grade to grade, and “survival” to a particular grade for a cohort starting in grade 1 (for example) can be estimated. Survival rate to the last grade of primary is perhaps the most commonly used indicator to measure efficiency of the primary grade levels, for a given school system.



Appendix C – Illustrative Performance Indicator Reference Sheets (PIRS) for Equitable Access and Retention Indicators

Performance Indicator Reference Sheet (PIRS)
Name of Indicator: Gaps in Primary Gross Enrollment Rate by Displacement Status
Is this a Performance Plan and Report indicator? No Reporting Years: X
DESCRIPTION
<p>Precise Definition(s):</p> <p>The indicator measures a gap in Primary Gross Enrollment Rate between host community and forcibly displaced children.</p> <p><u>Primary Gross Enrollment Rate:</u> Total enrolment in primary education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to primary education in a given school year.</p> <p><u>Forcibly displaced:</u> Forcibly displaced is a category that includes:</p> <ul style="list-style-type: none"> ○ Internally displaced persons: An internally displaced person is an individual forced to flee from his/her home or place of habitual residence, who has not crossed an internationally recognized state border. ○ Asylum seekers: An asylum seeker is person seeking international protection whose claim for refugee status has not yet been determined. ○ Refugees: A refugee is a person who, owing to well-founded fear of persecution for one of a number of specific reasons contained in the 1951 Refugee Convention, is outside the country of his/her nationality, and is unable or unwilling to avail himself or herself of the protection of that country. <p><u>Host community:</u> refers to the country of asylum and the local, regional and national governmental, social and economic structures within which refugees live.</p>
Unit of Measure: Percentage
Disaggregated by: Geographical location (department, region, urban/rural)
Rationale or Justification for indicator (optional): To track changes in the gap in primary school participation between host community and forcibly displaced children. The absolute gap found after calculating the indicator represents the amount by which it would be necessary to increase the gross enrollment rate for forcibly displaced children to achieve equity between the two groups.
PLAN FOR DATA COLLECTION BY USAID



<p>Data Source:</p> <p><u>Education Management Information System (EMIS)</u>: obtained from the Ministry of Education;</p> <p><u>Population censuses</u>: normally obtained from the central statistical office;</p> <p><u>Population estimates</u>: obtained from the central statistical office and/or through collaboration with local humanitarian agencies who maintain up to date information on population parameters.</p>
<p>Method of data collection and construction:</p> <p><u>Education Management Information System (EMIS)</u>: can provide enrollment data for primary education in a given year by geographic location.</p> <p><u>Population censuses and estimates</u>: can provide primary education school-age population by geographic location.</p> <p><u>Calculation method</u>: (Number of host community children enrolled in primary education / Host community population of the theoretical age of primary education)*100 - (Number of forcibly displaced children enrolled in primary education/ forcibly displaced population of the theoretical age of primary education)*100</p>
<p>Reporting Frequency: Annual.</p>
<p>Individual(s) responsible at Implementing partner:</p>
<p>DATA QUALITY ISSUES</p>
<p>Dates of Previous Data Quality Assessments and name of reviewer:</p>
<p>Date of Future Data Quality Assessments (optional):</p>
<p>Known Data Limitations:</p>
<p>TARGETS AND BASELINE</p>
<p>Baseline timeframe (optional):</p>
<p>Rationale for Targets (optional):</p>
<p>CHANGES TO INDICATOR</p>
<p>Changes to indicator:</p>
<p>Other Notes (optional):</p>
<p>THIS SHEET LAST UPDATED ON:</p>



Performance Indicator Reference Sheet (PIRS)
Name of Indicator: Gaps in 6 th grade dropout rate between host community boys and forcibly displaced girls
Is this a Performance Plan and Report indicator? No Reporting Years:
DESCRIPTION
<p>Precise Definition(s):</p> <p>The indicator measures a gap in sixth grade dropout rate between host community boys and forcibly displaced girls.</p> <p><u>Sixth dropout rate:</u> Proportion of pupils enrolled in sixth at a given school year who are no longer enrolled in the following school year.</p> <p><u>Forcibly displaced:</u> Forcibly displaced is a category that includes:</p> <ul style="list-style-type: none"> ○ Internally displaced persons: An internally displaced person is an individual forced to flee from his/her home or place of habitual residence, who has not crossed an internationally recognized state border. ○ Asylum seekers: An asylum seeker is person seeking international protection whose claim for refugee status has not yet been determined. ○ Refugees: A refugee is a person who, owing to well-founded fear of persecution for one of a number of specific reasons contained in the 1951 Refugee Convention, is outside the country of his/her nationality, and is unable or unwilling to avail himself or herself of the protection of that country. <p><u>Host community:</u> refers to the country of asylum and the local, regional and national governmental, social and economic structures within which refugees live.</p>
Unit of Measure: Percentage
Disaggregated by: Geographical location (department, region, urban/rural)
Rationale or Justification for indicator (optional): To track changes in sixth grade dropout gap between host community boys and forcibly displaced girls. The absolute gap found after calculating the indicator represents the amount by which it would be necessary to decrease the dropout rate for forcibly displaced girls to achieve equity between forcibly displaced girls and host community boys.
PLAN FOR DATA COLLECTION BY USAID
Data Source: School registers.



<p>Method of data collection and construction:</p> <p><u>Primary data collection:</u> school census to collect data on enrolment and repeaters by grade, gender and displacement status.</p> <p><u>Calculation method:</u> [100% - (promotion rate for forcibly displaced girls in grade 6 in year (t) + repetition rate for forcibly displaced girls in grade 6 in year (t))] - [100% - (promotion rate for host community boys in grade 6 in year (t) + repetition rate for host community boys in grade 6 in year (t))]</p>
<p>Reporting Frequency: Annual.</p>
<p>Individual(s) responsible at Implementing partner:</p>
<p>DATA QUALITY ISSUES</p>
<p>Dates of Previous Data Quality Assessments and name of reviewer:</p>
<p>Date of Future Data Quality Assessments (optional):</p>
<p>Known Data Limitations:</p>
<p>TARGETS AND BASELINE</p>
<p>Baseline timeframe (optional):</p>
<p>Rationale for Targets (optional):</p>
<p>CHANGES TO INDICATOR</p>
<p>Changes to indicator:</p>
<p>Other Notes (optional):</p>
<p>THIS SHEET LAST UPDATED ON:</p>