Leaving No One Behind

A Knowledge and Innovation Exchange (KIX) Discussion Paper

GLOBAL PARTNERSHIP
for EDUCATION

Acknowledgments

A note on the KIX consultation process

The Global Partnership for Education's Knowledge and Innovation Exchange (KIX) thematic funding will support global and regional initiatives that use knowledge exchange, evidence and innovation to help developing countries solve critical educational challenges. It will support:

- **Capacity development and knowledge exchange among developing countries**: Activities that strengthen national capacity through peer review and exchange, creation of learning modules and diagnostic tools, and face-to-face exchange
- **Evidence and evaluation**: Activities that aim to consolidate and/or extend knowledge about how to improve educational outcomes and national education systems
- **Innovation pilots**: Piloting of approaches, methods, tools or products that solve persistent educational challenges.

Investments will be guided by the priorities of developing country partners and allocated through a competitive process managed by an independent grant agent. Knowledge products, innovation pilots, and related tools developed through KIX funding will be shared through the Learning Exchange to amplify their uptake.

The purpose of this paper is to describe the current landscape in equity and inclusion in education and spark discussion and debate around potential areas for KIX investment. The paper is part of a series of discussion papers, drafted to support the engagement and consultation of developing country partners and technical experts in the initial design of the GPE Knowledge and Innovation Exchange. The ideas presented in the initial version of the paper served as a starting point for discussion and were modified significantly based on the consultation process, thereby resulting in this updated version.

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Abbreviations and Acronyms

ASER	Annual Status of Education Report
DCP	developing country partner
DFID	U.K. Department for International Development
EMIS	education management information systems
ESP	education sector plan
ESPIG	education sector program implementation grant
GEMR	Global Education Monitoring Report
GPE	Global Partnership for Education
GRID	Group-based Inequality Database
IIEP	International Institute for Educational Planning
INEE	Inter-Agency Network for Education in Emergencies
KIX	Knowledge and Innovation Exchange
LGBTI	lesbian, gay, bisexual, transgender and intersex
NGO	nongovernmental organization
SDG	Sustainable Development Goal
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNGEI	United Nations Girls' Education Initiative
UNICEF	United Nations Children's Fund
WIDE	World Inequality Database on Education

Executive Summary

Importance of equity and inclusion in quality education as an area of Global Partnership for Education investment

Taking the starting point of the focus of the fourth Sustainable Development Goal (SDG) of ensuring "inclusive and equitable quality education," tackling disadvantage needs to be a central focus of national education plans, and of the priorities that are needed. As the Incheon Declaration and Framework for Action for the education SDG states: "Inclusive education for all should be ensured by designing and implementing transformative public policies to respond to learners' diversity and needs, and to address the multiple forms of discrimination … which impede the fulfillment of the right to education." Beyond a right, investment in equity reaps benefits for individuals and societies.[1]

Challenges in achieving equity and inclusion in quality education

Intersecting disadvantage is holding back progress toward quality education

Political economy challenges are often at the heart of the challenges of ensuring equitable and inclusive quality education for children from disadvantaged backgrounds, and they are sometimes the reason for those children not being counted. Their challenges in education are also often associated with, and reinforced by, disadvantages they face in wider society. Discrimination in wider society linked with early marriage, lack of productive work opportunities or violence affect their exclusion from education. In addition, children cannot learn if they suffer from the effects of poor health and nutrition: The poorest children are most likely to have the poorest health status. As such, education reform needs to be developed within a broader national development framework that promotes social inclusion, backed up with sufficient resources.

Available data on educational access and learning (notably poverty, location, gender and, where data are available, disability) show that different forms of disadvantage reinforce and even exacerbate each other. Thus, to be effective, education policy and programming needs to tackle multiple forms of disadvantage simultaneously. It is vital also to pay due attention to children who are often missing from data sets, and whose invisibility is likely to further marginalize them from education systems, and undermine efforts aimed to promote equity and inclusion in national education planning. This includes, for example, children displaced because of conflict, children affected by HIV and AIDS, nomadic and other migratory populations, ethnic minorities, children living in informal settlements and street children.

Both access and learning must be addressed

While there has been global attention to the "learning crisis," data clearly show the challenge of access is still present, especially for the most marginalized. Millions of children are still out of primary school, and millions more do not have access to secondary education.

Only about a quarter of the poorest children in low-income countries complete primary school, compared with three-quarters in the richest countries.[2] However, inequalities are as wide, if not wider, within countries as they are between them, highlighting the need to pay attention to particular marginalized groups. For example, many of the poorest girls still do not complete primary school in many countries in Sub-Saharan Africa. Progress in both access and learning is possible, however. Countries such as Burkina Faso, Chad and Kenya have simultaneously improved learning and access to education while narrowing gaps between rich and poor children.

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[1] UNICEF, *The Investment Case for Education and Equity* (New York: UNICEF, 2015).
[2] World Bank, *World Development Report: Learning to Realize Educations Promise* (Washington, DC: World Bank, 2018), 60.

Disadvantage begins in the early years, but domestic and aid resources are currently skewed toward higher levels of education

Disadvantage starts early in the education system, where children facing multiple disadvantages are at risk of falling behind in learning, leading them to drop out before even completing primary school. Yet domestic and aid resources are often skewed toward higher levels of education from which few of these children benefit.

Curricula and textbooks are often designed at a pace that leaves behind struggling learners, and public examinations are often too difficult for most students. These contribute to students falling behind and never catching up.

Global Partnership for Education's approach to leaving no one behind in education

The Global Partnership for Education (GPE) is committed to improving equity and inclusion in education. GPE's 2020 strategy emphasizes increasing equity, gender equality and inclusion within its 65 developing country partners. The GPE results framework sets out sex-disaggregated targets relating to the number of children supported to attend school by GPE and overall educational participation, and to an equity index based on inequalities by gender, location and wealth.

Most education sector plans completed by developing country partners propose specific strategies for children with disabilities, girls, children from the poorest households and children in rural, hard-to-reach or remote areas. However, tracking of these strategies remains low. GPE supports activities for educating children with disabilities, and some developing country partners have built education for children with disabilities into their education sector program implementation grants. Addressing the challenge of insufficient data on disability is a key priority for GPE and its partners.

Existing global goods that support equity and inclusion in education

Current investments in global public goods that aim to address education equity and inclusion relate to the disaggregation of data, particularly drawing on available household survey data sources that allow comparisons by gender, wealth and rural/urban location. The Inter-Agency Group on Education Inequality Indicators, led by the UNESCO Institute for Statistics (UIS), United Nations Children's Fund (UNICEF) and the World Bank, promotes and coordinates the use of household survey data for education monitoring at national, regional and global levels. The Washington Group on Disability Statistics has greatly facilitated the collection of disability-disaggregated data, although such data so far remains scarce. In addition, some groups of children continue to remain invisible in available data sets, such as those living in institutions or on the streets. Disaggregated data available from a variety of sources have been used to provide user-friendly databases that allow visualizations of access and learning gaps by different forms of disadvantage, such as the World Inequality Database on Education (WIDE), maintained by UNESCO, and Save the Children's Group-based Inequality Database (GRID).

A growing portfolio of education system diagnostic tools are being prepared by GPE, the UNESCO International Institute for Educational Planning (IIEP), the World Bank and other international agencies to support countries in diagnosing challenges in education systems, to be addressed through planning. These address equity and inclusion to varying degrees. To be effective, these tools need to support countries in explicitly identifying the challenges to be addressed in tackling equity and inclusion in a user-friendly way that take account of human and financial resource constraints.

A methodology for developing national education accounts has recently been established by the UIS and IIEP with support from GPE. Where comprehensive, disaggregated data are available, these can help point to areas for addressing equity and inclusion in financing. Evidence on the optimal design and benefits of formula funding and school grants is available from middle-income countries, and guidelines have recently been developed for low-income countries based on a review of 14 countries

conducted by the IIEP. A number of networks and communities of practice are in place and can be built on to develop new global public goods in specific areas of equity and inclusion, including the Inter-Agency Network for Education in Emergencies (INEE) and the United Nations Girls' Education Initiative (UNGEI), both active for over a decade, and the newly established Inclusive Education Initiative, which aims to support disability reform in particular.

Proposed areas for investment in global public goods

Following an overview of GPE's work on equity and inclusion in education, and a review of existing global public goods in relation to data, diagnosis, national education planning, financing and evidence for promoting equity and inclusion in education, the paper identifies potential priorities for GPE's investment in global public goods. The focus is primarily on strengthening education data, planning and evidence within GPE countries. Documentation of approaches and evidence supported by activities that promote peer learning would be particularly valuable to ensure initiatives are successful.

Collect data on invisible groups

- Develop approaches to collect data on groups currently absent from or invisible in data sets that are likely to be particularly relevant for national education planning—for example, nomadic or urban slum populations; street children; children in institutions; ethnic or religious minority populations; lesbian, gay, bisexual, transgender and intersex (LGBTI) children and adolescents; refugees and internally displaced populations.
- Develop guidelines on how to collect data that might be considered politically sensitive—for example, on race and ethnicity, LGBTI status, HIV and AIDS.
- Promote more systematic use of data identifying children with disabilities to assess their access and learning opportunities both through household surveys and education management information systems (EMIS); systematically collate such data building on work by the UIS.
- Update EMIS to include disaggregation beyond sex.
- Develop approaches to learning assessments that are more inclusive, enabling the participation of children with different types of disabilities, or who might otherwise be excluded if they are not at school.

Use disaggregated data more effectively

- Build on existing approaches that have made data available in user-friendly online formats (such as UNESCO's WIDE database and Save the Children's GRID database) to ensure systematic and timely inclusion of indicators associated with SDG 4 that can be disaggregated.
- Work with national governments to promote the use of, and build capacity in, disaggregated data in their planning, including indicators in plans disaggregated by relevant forms of disadvantage, and to adopt a stepping-stone approach to tracking progress.
- Identify how data from existing sources can be used more effectively within countries, including ensuring the tracking of SDGs is disaggregated by different forms of disadvantage that are currently less visible.
- Identify ways in which technology can be used to collect timely, disaggregated data for these purposes that are also presented in user-friendly ways for use within countries.

Systematically include equity in education planning

- Identify ways to ensure every national education plan includes a systematic diagnosis of the problem from the perspective of equity and inclusion, with costed strategies for addressing these.

- Develop guidance on how to include equity and inclusion within national plans (through a combination of mainstreaming and targeted analysis), including monitoring of how this is being undertaken.
- Ensure guidance takes account of the support needed to teachers in diverse classrooms, as well as ensuring curriculum and assessment reform takes account of equity and inclusion.
- Review national approaches on addressing equity and inclusion in government structures for planning—whether through specialized units or other means—to develop lessons for other countries.

Identify approaches for groups requiring targeted support

- Support the newly established Inclusive Education Initiative[3] to identify priority areas for national governments in promoting approaches to supporting children with disabilities.
- Identify successful examples of reaching other groups with relevant, quality education experiences, such as street children, children living in institutions, pastoralist children, children living in urban slums or remote rural areas, and others.
- Identify successful examples of teacher training and school leadership training for equity and inclusion, including in the context of diverse classrooms.
- Identify where evidence shows that interventions have not worked in reaching the most marginalized, and whether this is due to inappropriate design, financial constraints (for example, the amount of resources and their distribution, as well as whether they reach those most in need), lack of political commitment to their implementation, or other reasons.

Strengthen of equitable accountability systems

- Identify positive approaches being used within countries to promote accountability with equity—for example, related to teacher incentives—to provide lessons for other countries.
- Support approaches by local community groups, civil society organizations and teacher unions to advocate for strategies to promote equity in education within countries, ensuring that these groups have access to disaggregated data and evidence to inform their advocacy.
- Assess the effectiveness of existing networks and institutions for the purposes of generating evidence and turning policy into action at the school and classroom levels.
- Identify convening and coordinating mechanisms that engage representatives of marginalized groups themselves, including through South-South networks.
- Consider accessibility—for example, languages used—and approaches to include those with different types of disabilities.

Develop approaches to domestic and aid financing for progressive universalism

- Develop principles for national governments and aid donors to adopt a progressive universalism approach,[4] taking account of the stage of development of education systems.
- Adopt the methodology for national education accounts more systematically across countries.
- Review national approaches to spending school grants to address disadvantage and national funding formulas for the redistribution of resources, to provide lessons for other countries.

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[3] World Bank, "New Inclusive Education Initiative for Children with Disabilities Announced by DFID, Norad, and the World Bank," press release, July 26, 2018.
[4] The Education Commission, in its report *The Learning Generation* (2016), recommends an approach to public financing of education based on "progressive universalism," whereby universal coverage of services is reached by focusing public resources on the most disadvantaged.

- In the context of moves in some countries to extend policy commitments to 12 years fee-free education, identify viable policy options for increasing secondary education that do not have adverse effects on prior levels of education, and that ensure the most disadvantaged benefit.
- Recognizing the challenges of rapidly expanding formal secondary schooling in some contexts, review approaches that countries have adopted for alternative models of delivering secondary level education, with guidance on the costs of such provision as well as of accreditation, teacher recruitment and so on.
- Review the 2016 Global Education Monitoring Report (GEMR) framework for adoption to assess country commitment to equity through financing.

Undertake, promote and use rigorous evidence to identify what works at scale for achieving equity in education, and on benefits of equitable education for social development

- Develop and promote the use of methodological approaches for impact evaluations of programs at scale, together with cost-effectiveness analysis.
- Use existing data to undertake cost-effectiveness analysis with equity of programs aimed at reaching the marginalized at different levels of education.
- Develop and promote the use of robust methodological approaches for evidence on sensitive topics, for which conventional approaches to impact evaluation are not feasible or appropriate.
- Develop research to understand the effects of discrimination of disadvantaged groups on their education opportunities, and evidence on the effectiveness of approaches to tackle this.
- Develop evidence in areas that are likely to have the greatest impact on the most marginalized but where gaps currently exist.
- Identify countries that have succeeded in reducing inequalities while increasing access and learning, and assess the conditions under which this has happened to draw lessons for other countries.
- Undertake new analysis to identify benefits of equitable education for wider social development outcomes.

1. Introduction

This paper focuses on the potential of global public goods to contribute to the ambitions of the education Sustainable Development Goal that no one should be left behind.[5] For the purposes of this paper, global public goods are defined as "Institutions, mechanisms and outcomes that provide near universal benefits, reach across borders and extend across generations":[6] That is, tools, products and approaches—including data, assessment tools, standards and research outcomes—that, once developed as the outcome of one particular intervention, can be adapted to create a tool or approach that is applicable, with appropriate customization, to other contexts.[7] It takes as its starting point the focus of SDG 4: ensuring "inclusive and equitable quality education." As the Incheon Declaration and Framework for Action for the Education 2030 Agenda states: "Inclusive education for all should be ensured by designing and implementing transformative public policies to respond to learners' diversity and needs, and to address the multiple forms of discrimination … which impede the fulfilment of the right to education."[8] Beyond a right, investment in equity reaps benefits for individuals and societies.[9]

This requires specific attention to reach the most marginalized children within countries, namely those who face multiple forms of disadvantage, such as poverty, gender, location, disability, race and ethnicity, religion, forced displacement, poor health, malnutrition or orphanhood. Many of these forms of disadvantage are reinforced by intergenerational disadvantage, such that children's parents or caregivers have often also not had the opportunity to attend school.

It is likely to cost more to reach the most marginalized, and potentially raises greater risks in achieving goals. It further requires support to available for the long haul, given these children's needs are unlikely to be addressed through short-term interventions. Failure to show commitment to reaching those most at risk will ultimately result in the greatest risk of all: Commitments through the SDGs of leaving no one behind in education will not be achieved by 2030.

This paper takes as a starting point the wide diversity of disadvantages that marginalized children face, both across and within countries. A girl in conflict-affected Afghanistan faces different obstacles than a girl in the north of Ghana; a child with a hearing impairment in Pakistan experiences different barriers than a child with an intellectual impairment in the same setting. While recognizing there is no blueprint for policy and programming, there are common considerations that need to be addressed. The paper does not intend to look at all the obstacles facing each group and the reforms needed to address these, which are likely to be context-specific and wide-ranging. Rather, the focus is on how disadvantages interact with each other, and what role global public goods can make in further understanding the reasons behind this, and how that can be tackled.

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[5] The paper draws on papers prepared for the Education Commission and the UNESCO Institute for Statistics *Handbook on Measuring Equity in Education* as well as an internal note prepared for DFID's Research and Evidence Division in preparation for the *2018 Education Policy: Get Children Learning*. Other papers have covered complementary areas, such as data, learning assessments and gender. This paper focuses specifically on leaving no one behind from the perspective of equity and inclusion across different forms of disadvantage, recognizing that recommendations in these other papers are likely to be important to this goal.

[6] Kaul et al. (1999), as cited in UNESCO, "Fulfilling Our Collective Responsibility: Financing Global Public Goods in Education," policy paper 34, UNESCO, Paris, 2018.

[7] Education Commission 2016.

[8] UNESCO. *Incheon Declaration and Framework for Action: Towards Inclusive and Equitable Quality Education and Lifelong Learning for All.* (Paris: UNESCO, 2015), 30.

[9] UNICEF 2015.

Globally, overall levels of learning are low, particularly in the poorest countries. This affects the population more widely, not only the most marginalized. UNESCO's 2013/4 Global Monitoring Report estimated that around 250 million children lacked basic literacy and numeracy skills, around half of whom had spent at least four years in school. This suggests a need for strategies to tackle overall low levels of learning to raise the threshold for all children. However, as the following sections of this paper highlight, an approach that fails to recognize the different forms of disadvantage that children face, and how they interact with each other, will not achieve the goal of leaving no one behind in education. This requires evidence-based planning and a multipronged approach to tackle the "triple effects" on poor learning outcomes—namely, reducing the links between home disadvantage, school quality and discrimination.[10]

Political economy challenges are often at the heart of the problems of ensuring equitable and inclusive quality education for children from disadvantaged backgrounds, and they are sometimes the reason for those children not being counted. Their challenges in education are also often associated with, and reinforced by, disadvantages they face in wider society. Discrimination in wider society linked with early marriage, lack of productive work opportunities, or violence affect their exclusion from education. In addition, children cannot learn if they suffer from the effects of poor health and nutrition: The poorest children are most likely to have the poorest health status. As such, education reform needs to be developed within a broader national development framework that promotes social inclusion, with demonstrated political leadership to achieve this backed up with sufficient resources.

Even when countries have developed policies that support equity and inclusion in the education system, they often are not implemented effectively. This can be due to issues related to political economy of reform processes, where the most marginalized have less of a political voice; lack of adequate financing for education sector plans, or lack of coherence within the plans, for example, on appropriate reforms to tackle the root problems of disadvantage; difficulty working across multiple sectors, including health and child protection, and across units within education ministries to meet the needs of disadvantaged children; and lack of coordination among donors. Further, accountability and quality assurance within education systems is a challenge, and this variation of quality is often more evident in schools serving the poorest and most marginalized children.

This paper begins by outlining that tackling disadvantage in education is not currently a sufficient focus of national education plans, and the priorities that are needed. It then summarizes GPE's approach to leaving no one behind. Following this, it identifies the main areas of global public goods in education currently. It ends by proposing potential areas for investing in global public goods to support the SDG ambition of leaving no one behind in education.

2. Paper development and consultation process

GPE commissioned a senior author to review GPE documents and sector plans related to equity and inclusion in education, conduct a desk review, consult with developing country partners (DCPs) and experts, and write this paper. Working with GPE's education specialist on equity and inclusion and other members of the GPE Secretariat, the author drafted an initial discussion paper in January 2019.

The paper was reviewed by 19 international experts and representatives from 3 DCPs (Cabo Verde, Lesotho and Somalia). Feedback was incorporated into a final version in early 2019.

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[10] Luis Crouch and Caine Rolleston, "Raising the Floor on Learning Levels: Equitable Improvement Starts with the Tail," Insights note, Research on Improving Systems of Education, Oxford, United Kingdom, 2017.

# 3. Tackling education disadvantage: The nature of the challenge

Multiple sources of disadvantage need to be tackled, while also addressing challenges facing specific groups

In the context of overall low levels of learning, some children are more adversely affected than others. Available data on educational access and learning (notably poverty, location, gender and, where data are available, disability) show that different forms of disadvantage reinforce and even exacerbate each other. Effective education policy and programming needs to tackle multiple forms of disadvantage simultaneously. It is vital also to pay due attention to children who are often missing from data sets, and whose invisibility is likely to further marginalize them from education systems. This includes, for example, children displaced due to conflict, children affected by HIV and AIDS, nomadic and other migratory populations, ethnic minorities, children living in slums and street children.

Multiple sources of disadvantage exacerbate learning inequalities

Figures 1 and 2 illustrate how multiple sources of disadvantage interact to widen gaps in learning. Across 34 countries with available data, poverty gaps in learning (that includes all children, whether they are in school or not) are particularly pronounced. These gaps widen when also taking account of gender. The poorest girls often face a greater learning disadvantage than all other groups, a disadvantage that is particularly striking in comparison with the richest boys (Figure 1). Early pregnancy and lack of support for menstrual hygiene management in schools are some of the factors that contribute to marginalization of the poorest girls. However, it is important to note that in around one in four countries, the poorest boys are the least likely to be learning.

Figure 1. Gender and poverty interact to create large learning gaps between the poorest girls and richest boys
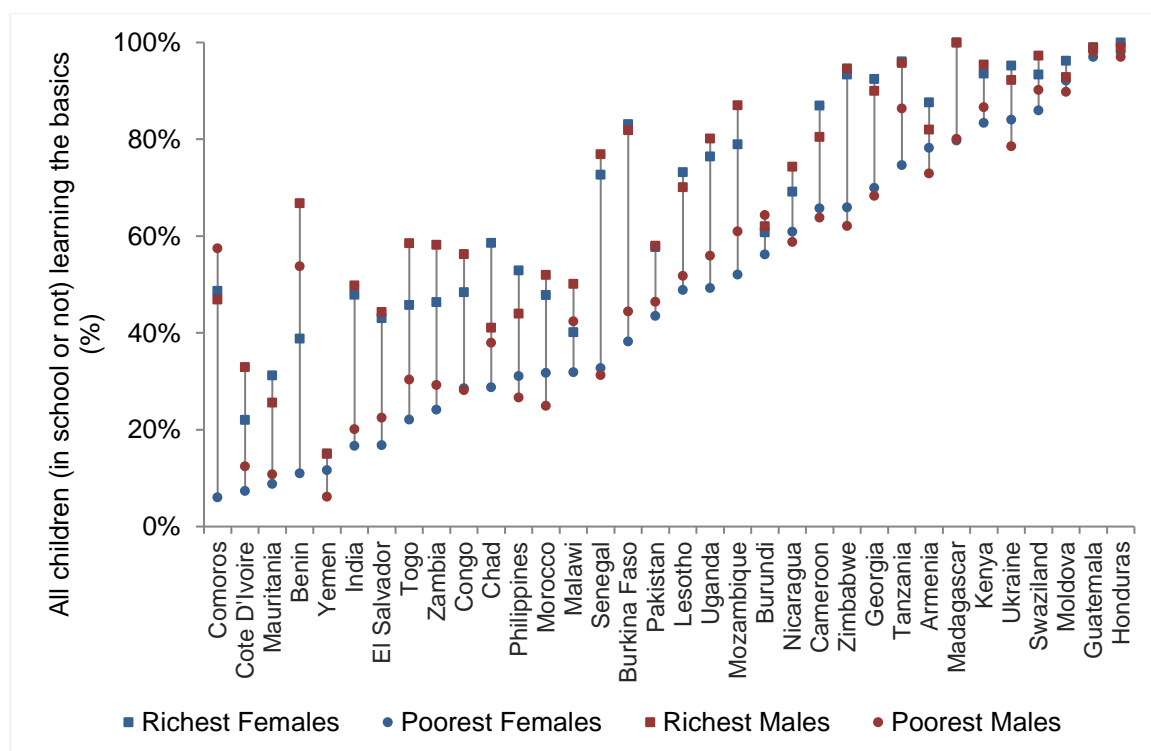
Source: Pauline Rose et al., "Overcoming Inequalities within Countries to Achieve Global Convergence in Learning," background paper for *The Learning Generation,* Education Commission, New York, 2016.

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Data from the Annual Status of Education Report (ASER) and Uwezo citizen-led assessments in rural India, rural Pakistan, Kenya, Tanzania and Uganda further highlight the sizable gaps between poorer and wealthier children in enrollment and learning. In each country, there is at least a 20-percentage-point gap between rich and poor in the share of children aged 10–13 who are in school and have learned basic mathematics skills (yellow bar in Figure 2). A variety of factors, including the health and nutritional status of children from the poorest households and limited early stimulation, likely contribute to this gap.

In rural India, rural Pakistan and Uganda, wealth gaps are compounded by gender inequalities (orange bar). In rural Pakistan, for example, interacting poverty and gender widens the gap by a third, from 19 to 25 points, when comparing poorer girls with wealthier boys. However, such gender gaps are not apparent in either Tanzania or Kenya.

While the extent to which poverty is compounded by gender varies by country, first-generation school-goers (that is, children whose parents have not been to school) are at a further disadvantage in all of the countries. When focusing on poor girls whose mothers never attended school, the gap between these children and wealthier boys whose mothers did attend school widens learning inequalities in each country by at least 8 points. In Kenya, being a poor girl who is a first-generation learner almost doubles the gap, from 24 to 42 points (light red bar).

Within each country, regional disparities further exacerbate learning gaps, most starkly in rural India, rural Pakistan and Tanzania. In Tanzania, regional disparities double the inequality in rates of children in school and learning: The gap between wealthier boys whose mothers went to school and poorer girls whose mothers did not stands at 29 points, but this gap increases to 57 points when comparing advantaged boys in the best performing region with disadvantaged girls in the worst performing region (dark red bar). In rural India, while the most advantaged boys in Himachal Pradesh are highly likely to be in school and learning basic numeracy skills (66 percent), the most disadvantaged girls in Gujarat have next to no chance (4 percent).

Figure 2. Wealth inequalities in enrollment and learning are exacerbated by other disadvantages
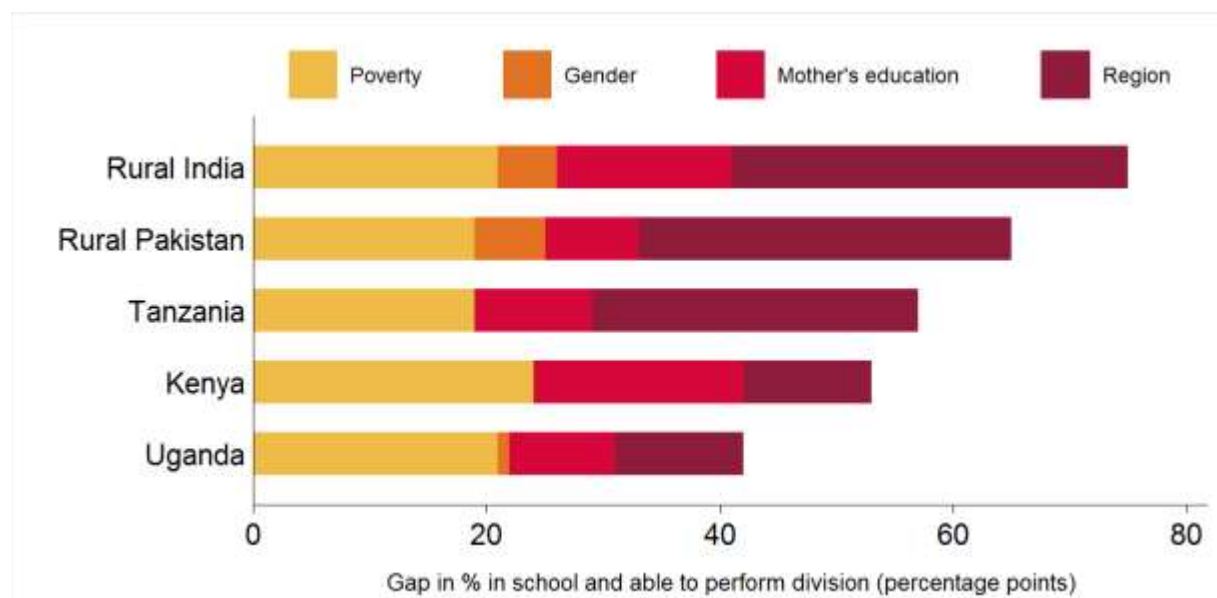
Gap in % in school and able to perform division (percentage points)

Source: Pauline Rose et al., "Overcoming Inequalities within Countries to Achieve Global Convergence in Learning," background paper for *The Learning Generation,* Education Commission, New York, 2016.

Disability is a particular source of disadvantage

Where available, data on other forms of disadvantage further illuminate the importance of taking account of their effects on access and learning. Disability is one such aspect where data are beginning to emerge, thanks to the work of the Washington Group on Disability Statistics. Drawing on the Child Functioning Module for children from this initiative, data from the Teaching Effectively All Children (TEACh) survey has found that around 11 percent of children aged 8-12 years in rural Punjab, Pakistan, have a disability.[11]

Children with disabilities are more likely to be out of school than their peers: In the part of Pakistan surveyed, the majority (96 percent) of children 8-12 years old without any disability are enrolled in school compared with 78 percent of those with moderate to severe disabilities. While their lower chances of accessing school are a cause for concern, it is noticeable also that a large proportion of children with moderate to severe disabilities are in school. Comparing their chance to learn once in school shows that they are likely to face additional obstacles in the classroom. Overall levels of learning are low: Only around 46 percent of children 8-12 years old who do not have a disability are able to read a story. But an even smaller proportion (only a third) of those identified with a moderate to severe disability are able to achieve even this basic level of literacy despite having been in school for three to four years.

Type of disability matters too: According to ASER data in Pakistan, children with moderate to severe physical difficulties were twice as likely to be out of school than children with moderate to severe learning difficulties. However, none of the children with moderate to severe learning difficulties were able to do subtraction, in contrast to 15 percent of children with moderate severe physical difficulties.[12]

Ideally, analysis on severity and type of disability would be further disaggregated by other forms of disadvantage, such as wealth and gender. However, sample sizes in surveys often make this level of disaggregation difficult. A recent study by UNICEF, based on an analysis of surveys across 15 countries, has attempted to do this.[13] It finds an average gap in primary and secondary school out-of-school rates between children with and without disabilities of around 30 percentage points. It further identifies that children with disabilities in these surveys are equally likely to be out of school whether they are born into a poorer or richer household. This implies that targeted approaches to support the education for these children would probably be needed.

Groups invisible in data sets must not be forgotten

A lack of data on some groups is leaving them invisible in educational policy and programming. While data is beginning to show the education experience of children with disabilities, faster progress across countries on collecting such data systematically across countries is needed. Data on education for refugee children living in camps and to some extent those in urban areas are more readily available as these populations are registered: The United Nations High Commissioner for Refugees (UNHCR) estimates that, in low-income countries, fewer than 50 percent of refugee children were enrolled in primary school and just 11 percent in secondary education, with about 4 million 5- to 17-year-old

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[11] Faisal Bari et al., "Identifying Disability in Household Surveys: Evidence on Education Access and Learning for Children with Disabilities in Pakistan, policy paper 18/1, REAL Centre, University of Cambridge, United Kingdom, 2018. This provides information on child functioning across 13 domains: seeing, hearing, walking, self-care, understanding of child's speech (within and outside the household), learning, remembering, controlling behavior, focusing, routine (accepting changes), making friends, and being worried or sad.

[12] Pauline Rose et al., "Overcoming Inequalities within Countries to Achieve Global Convergence in Learning," background paper for *The Learning Generation,* Education Commission, New York, 2016.

[13] Suguru Mizunoya, Sophia Mitra, and Izumi Yamasaki, "Disability and School Attendance in 15 Low- and Middle-Income Countries," *World Development* 104 (2018): 388-403.

refugees out of school in 2017.[14] However, there is very limited information on how refugee status interacts with other forms of disadvantage, and on their learning. Moreover, data on both access and learning are often lacking for internally displaced children, nomadic and other migratory populations, and street children. Informal settlement populations are also hard to reach by enumerators working for national statistic agencies due to problems of security and violence.[15] Another group with limited data is LGBTI children and adolescents, who often experience threats and violence in schools because of their sexual identity.[16] Finally, it is important to note that children with disabilities are included in all of the marginalized groups mentioned, making them among the most vulnerable to exclusion. There is an urgent need to find ways to count these children; otherwise, political systems will turn a blind eye to these groups who usually lack political voice.

"No education target should be considered met unless it is met by all" means tracking progress for disadvantaged groups

The Incheon Declaration for the implementation of SDG 4 highlights that "No education target should be considered met unless it is met by all." Thus, to identify if SDG 4 is on track, targets must be tracked according to disadvantage to identify if policy responses are both raising learning levels as well as closing inequality gaps. To identify the progress needed by 2030, Watkins' proposal of "stepping-stone" targets,[17] which set interim targets adjusted to specific countries, offers a clear means to account for the different speed of progress needed for subgroups of the population within countries (Figure 3). In addition, the use of stepping-stone targets with shorter intervals (for example, every five years) is more informative for the reality of national planning imperatives, which tend to relate to political electoral cycles, and also enable identification of whether sufficient progress is being made for the most disadvantaged groups well before the more distant deadline year.[18]

Figure 3. Ensuring all 12-year-olds are learning the basics by 2030 will require focusing on the most disadvantaged
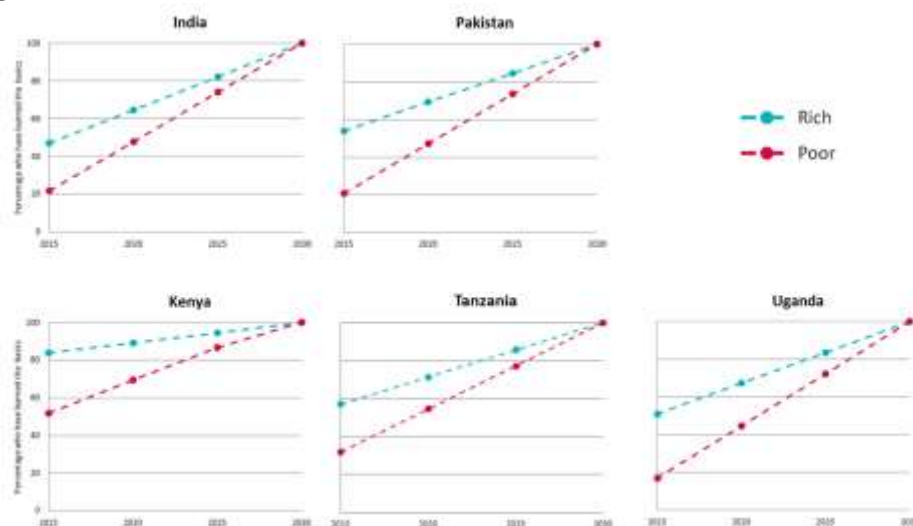
Source: Pauline Rose and Benjamin Alcott, "How Can Education Systems Become Equitable by 2030? DFID Think Pieces – Learning and Equity," report prepared for U.K. Department for International Development, Health & Education Advice and Resource Team, Oxford, United Kingdom, 2017.

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[14] UNESCO, *Migration, Displacement and Education: Building Bridges, Not Walls,* Global Education Monitoring Report 2019 (Paris: UNESCO, 2018).

[15] Roy Carr-Hill, "Missing Millions and Measuring Development Progress," *World Development* 46 (2013): 30-44.

[16] World Bank, "Why LGBTI Inclusion Is Key to Shared Prosperity," News, World Bank, May 17, 2018.

[17] Kevin Watkins, "Leaving no one behind: an agenda for equity," *The Lancet* 384, no. 9961 (2014): 2248-2255.

[18] Pauline Rose, "Three Lessons for Educational Quality in Post-2015 Goals and Targets: Clarity, Measurability and Equity," *International Journal of Educational Development* 40 (2015): 289-96.

Education policy responses need to tackle multiple disadvantages simultaneously
Unless the multiple disadvantages that children face are tackled, it is highly unlikely that the necessary progress toward education learning targets will be achieved. This does not, however, mean that one size fits all. Some disadvantaged groups face specific challenges that require tailored approaches of relevance to their context, for example, to address gender-based violence, to ensure inclusion of children with disabilities in classrooms, or to tackle discrimination faced by particular ethnic or language groups. But these targeted approaches are unlikely to succeed unless the wider environment is tackled simultaneously to ensure overall levels of learning are also raised. Such policies might include, for example, ensuring the curriculum is at the right pace, teachers receive appropriate training to support children in learning foundation skills, and language of instruction ensures that different language and ethnic groups can equally benefit from education.[19]

Need to tackle both access AND learning
The 2018 World Development Report includes "schooling is not the same as learning" as the first of its key messages.[20] While there is no denying this, children do need to access school to have the chance to learn. As such, access and learning gaps need to be addressed simultaneously.

Despite significant progress, data clearly show that the access challenge is not yet over. Millions of children are out of primary school, let alone have access to secondary education. The most marginalized children are most in danger of being out of school, with a danger that they will be forgotten in the context of ambitious SDGs that are shifting attention to quality and access at higher levels of education.

Drawing on analysis by the UIS, the 2018 World Development Report identifies that "only about a quarter of the poorest children in low-income countries—compared with three-quarters in the richest—complete primary school."[21] This is reiterated by looking across 35 countries with recent data from Demographic and Health Surveys (DHS) or UNICEF Multiple Indicator Cluster Surveys (MICS) in Sub-Saharan Africa, where it is evident that many of the poorest girls still do not complete primary school (Figure 4). On average across these countries, only around one in four of the poorest girls complete primary school. This in turn affects their chances of making it to secondary school, with only 5 out of every 100 completing education at this level. It is also a reason for the low levels of learning among the most disadvantaged who do not make it far enough in school to achieve even the basics in mathematics and reading. The analysis shows that while significant inequalities exist between countries, inequalities among different population groups within countries are at least as great, if not greater. This highlights the need for a focus on redistributive approaches to tackle the challenges faced by those who are least likely to benefit from education within countries.

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[19] Rose and Alcott 2017; Lant Pritchett and Amanda Beatty, "The Negative Consequences of Overambitious Curricula in Developing Countries," Harvard Kennedy School working paper RWP12-035, Cambridge, Massachusetts, 2012; Crouch and Rolleston 2017.
[20] World Bank 2018c.
[21] Ibid., 60.

Figure 4. Primary completion rate by wealth and gender, 2010-2015
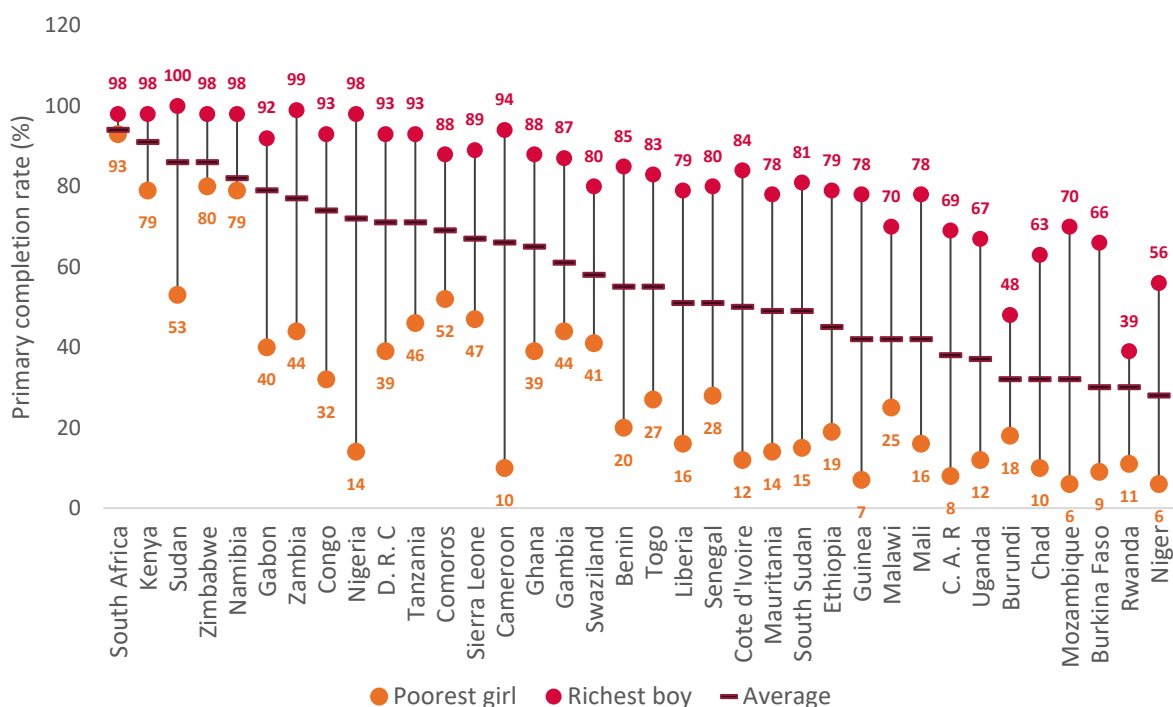
Source: World Inequality Database on Education (WIDE), UNESCO, https://www.education-inequalities.org.
Note: The year 2015 is the latest for which data is available.

Access and quality are not, however, inevitable trade-offs. Rather, they need to be addressed simultaneously to improve opportunities of those most in danger of being left behind, and so ensure they have access to a good quality education that enables them to learn. While comparative data on learning over time are scarce, information from 25 low- and middle-income countries identifies seven countries have made improvements both in improving a combination of access and learning while also narrowing gaps between the rich and poor, notably Kenya. The other countries include ones in West Africa that started at a very low base, such as Burkina Faso and Chad. This is not to say that these countries are now on track for achieving learning targets, but they are moving in the right direction. It would be beneficial to identify the strategies that these countries have adopted.

It is also important to highlight that learning is not just about reading and writing. In taking account of children from diverse backgrounds, there is a need for new approaches to measure the potential benefits of education—for example, the extent to which education systems boost children's sense of inclusion, self-efficacy and self-esteem. Such measures have been included in the Young Lives survey across four countries.[22]

Prioritizing education from the early years

Evidence shows that children are often far below the level expected for their grade, and once they fall behind, they often find it difficult to catch up. Data from a range of learning assessments in India

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[22] Stefan Dercon and Pramila Krishnan, "Poverty and the Psychosocial Competencies of Children: Evidence from the Young Lives Sample in Four Developing Countries." *Children, Youth and Environments* 19, no. 2 (2009): 138-63.

indicate that only between 9 and 13 percent of those who lack a basic literacy or numeracy skill are able to gain this skill after an additional year of schooling.[23]

Further evidence from India shows that curricula and textbooks are designed at a pace that leaves behind those who struggle to learn the basics.[24] Similarly, public examinations are often too difficult for most students, and so are unable sufficiently to differentiate between learning levels or show whether progress is being made except among the highest performing students.[25] These exams often also push teachers to stick to an overly ambitious curriculum rather than support students who are falling behind. Reform of national assessment systems combined with the development of formative assessment to support teaching within schools is therefore a vital step to understand the scale of the problem, as well as to identify which groups of children are not learning and the areas in which these children require support. Addressing the political barriers to reform in these areas needs to be better understood and tackled.

Learning gaps start early

Evidence shows that gaps in learning that take account of multiple forms of disadvantage widen as children get older. The example of rural India using ASER data illustrates this, although the pattern is apparent in other countries (Figure 5).[26] Two reasons account for this widening gap: First, the most disadvantaged are more likely to drop out of school before they have had a chance to learn the basics, and second, even if in school, disadvantaged children are less likely to learn. The second reason is often exacerbated by these children being in schools that have fewer resources and less experienced teachers, as well as their caregivers having less opportunity to provide financial support to their schooling, including additional private tuition. This highlights the vital importance of the use of public financing to equalize opportunities from the early stages of the education system.

Figure 5. Widening inequalities in learning by age in rural India
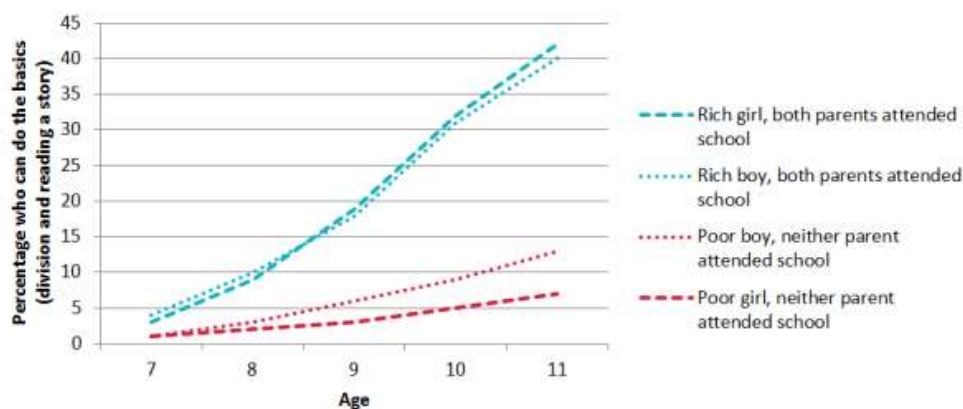
Source: Benjamin Alcott and Pauline Rose, "Learning in India's Primary Schools: How Do Disparities Widen across the Grades?" *International Journal of Educational Development* 56 (2017): 42-51.
Education spending is often skewed toward higher levels of education, to which few of the most disadvantaged have access

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[23] Suman Bhattacharjea, Wilima Wadhwa, and Rukmini Banerji, *Inside Primary Schools: A Study of Teaching and Learning in Rural India* (Mumbai: ASER and Pratham Education Initiative, 2011); Educational Initiatives, "Student Learning Study: Status of Student Learning across 18 States of India in Urban and Rural Schools." Working paper 9, Educational Initiatives, Ahmedabad, 2010; Lant Pritchett and Amanda Beatty, "Slow Down, You're Going Too Fast: Matching Curricula to Student Skill Levels." *International Journal of Educational Development* 40 (2015): 276-88.
[24] Pritchett and Beatty 2015.
[25] Newman Burdett, "The Good, the Bad, and the Ugly: Testing as a Key Part of the Education Ecosystem," RISE working paper RISE-WP-16/010, Research on Improving Systems of Education, Oxford, United Kingdom, 2016.
[26] Rose and Alcott 2017.

The Education Commission recommends an approach to public financing of education based on "progressive universalism,"[27] whereby public resources are focused on the most disadvantaged who are least able to pay, favoring the allocation of public funding to lower levels of the education ladder, and, within that, to those left behind because of poverty, disability and social disadvantage. This is also where social returns to spending are found to be greatest. Such an approach identifies the importance of focusing resources on the early years of education (including preschool and early years of primary school through to primary school completion), with targeted approaches as children progress through the system.

This does not mean neglecting secondary and higher education. Rather, for countries still struggling to achieve universal quality primary schooling, resources need to be targeted at the disadvantaged who make it to secondary and higher education together with an appropriate mix of private funding for those who can afford to pay at higher levels. Focusing only on the early years of education risks children dropping out as they progress through the system and lack support at later stages. A targeted approach to tracking support to disadvantaged children from the early years through the transition to secondary education will likely have a more long-lasting and intergenerational impact.

However, domestic spending is often skewed toward levels of education that predominantly benefit children from wealthier households (Figure 6). Across 31 South Asian and Sub-Saharan African countries, a third of the countries exhibit pro-poor patterns in public spending at the primary level, such that the poorest decile benefits from larger shares of expenditure than the richest decile. This is likely thanks to recent increases in access to primary education across most of the countries in this analysis that have disproportionately benefited those from poorer households who were previously out of school. At the secondary and higher education levels, public spending in all countries is pro-rich, and significantly so in most countries at the higher education level. This is due to a combination of the fact that extremely few children from poor households have the chance to reach higher education (fewer than 1 percent do so in many of these countries) and that the increases in cost per student are borne by the public budget in these countries. Progressive universalism suggests a need to re-orientate public spending toward lower levels of the system while identifying appropriate ways for private contributions among those who can afford it at higher levels, accompanied by subsidies for the poorest who make it to these levels.

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[27] Education Commission 2016.

Figure 6. Public education spending skews toward the richest, particularly at higher levels of education

Public education spending on the richest decile relative to spending on the poorest decile, by level of education
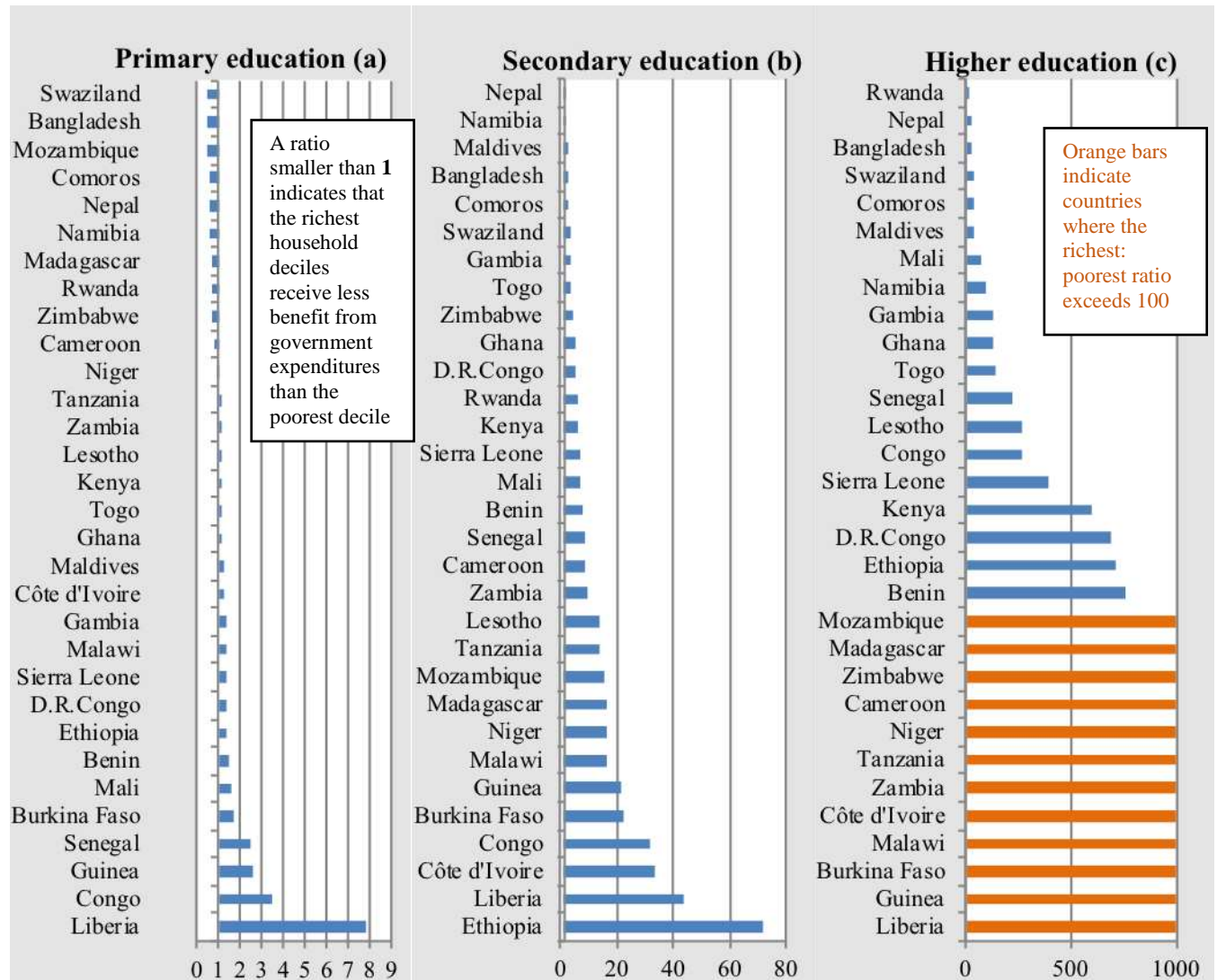
Source: Sonia Ilie and Pauline Rose, "Who Benefits from Public Spending on Higher Education in South Asia and Sub-Saharan Africa?" *Compare* 48, no. 4 (2018): 630-47. Based on UNESCO Institute for Statistics and Demographic and Health Surveys data.

Such a skew in spending is also apparent in donor spending. Despite concerns that the Millennium Development Goals resulted in resources being focused on basic education at the expense of other levels, in reality higher education has absorbed a similar proportion of donor spending as basic education. Of the total aid budget, around 20 percent is spent on scholarships for students to study in donor countries rather than on strengthening the capacity of higher education institutions within poor countries. These resources therefore do not reach those most in need. By contrast, early childhood education, for which there is strong evidence that it supports learning and livelihood outcomes in later life, only receives around 1 percent of donor spending.[28]

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[28] Asma Zubairi and Pauline Rose, "Bright and Early: How Financing Pre-primary Education Gives Every Child a Fair Start in Life," report prepared for TheirWorld, 2017.

4. GPE's approach to leaving no one behind[29]

GPE is committed to improving equity and inclusion in education. GPE's 2020 strategy emphasizes increasing equity, gender equality and inclusion throughout all of its developing country partners. One of its three headline strategic goals is "increased equity, gender equality and inclusion for all in a full cycle of quality education, targeting the poorest and most marginalized, including by gender, disability, ethnicity and conflict or fragility."[30] Its results framework sets out sex-disaggregated targets relating to the number of children supported to attend school by GPE and overall educational participation, and to an equity index based on inequalities by gender, location and wealth.

GPE works with DCPs on equity and inclusion by quality assuring and reporting progress on education sector plans (ESPs), as well as financing education sector program implementation grants (ESPIGs) to support education for marginalized groups. A GPE Secretariat assessment of ESPs and transitional education plans in 2016/17 found improvements (compared with 2014/15) in the way the plans responded to marginalized groups. They were more evidence-based, relevant, coherent and measurable—improvements that can be partially explained by a strengthened quality assurance process—but several plans still lacked realistic frameworks for financing and monitoring.[31] Of 19 plans reviewed by GPE in 2016, most propose specific strategies for children with disabilities, girls, children from the poorest households and children in rural, hard-to-reach or remote areas. However, an independent review of 75 plans (including those supported by GPE, as well as others) found that very few intend to track progress in access by disadvantaged groups beyond gender, and even fewer identify such indicators for learning.[32]

On disability, a 2018 GPE study examined the ESPs and activities aimed at improving equity in 51 DCPs. The findings report on the barriers to educating children with disabilities and suggest actions on all system levels that can continue to address challenges and improve equitable learning. Of the 51 countries surveyed, 38 have signed and ratified the Convention on the Rights of Persons with Disabilities. In 48 of the countries, national rights and policies guarantee the constitutional right to education for all children, including those with disabilities, and 33 of those countries include a national disability law or policy.[33] At the national level, GPE has provided more than US$5 million since 2012 to fund activities specifically for educating children with disabilities. In 2016, 12 countries had active ESPIGs with components relating to education for children with disabilities.[34] In addition, addressing the challenge of insufficient data on disability is a key priority for GPE and partners such as the UIS.

A number of GPE grants also recognize the importance of school health investments, particularly in tackling disadvantage related to poverty and disability. Most commonly these have included construction of toilets, school feeding, water points and hygiene promotion. Gender-related activities for adolescent girls (e.g. relating to early marriage and gender based violence), life skills, hearing aids and eyeglasses, and micronutrients and deworming also featured in smaller numbers of grants.

In addition to country-level quality assurance of ESPs and targeted grants, GPE intends to build on successful programs and invest in the development of global public goods in education through the equity and inclusion thematic pillar of KIX. Through KIX, GPE will make an initial investment of US$5

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[29] This section has been written by the GPE Secretariat.

[30] GPE, "GPE 2020 Strategic Plan," Global Partnership for Education, Washington, DC, 2016.

[31] GPE, *Results Report 2018* (Washington, DC: Global Partnership for Education, 2018).

[32] UIS, *Handbook on Measuring Equity in Education* (Montreal: UNESCO Institute for Statistics, 2018).

[33] Ibid.

[34] GPE, "Disability and Inclusive Education: A Stocktake of Education Sector Plans and GPE-funded Grants," working paper 3, Global Partnership for Education, Washington, DC, 2018.

million from its core fund, seeking to match this support with contributions from others, to make catalytic investments that can further address the remaining challenges. The following sections of this paper focus on available global public goods with respect to equity and inclusion in education, and gaps that could be filled by the KIX investment.

5. Existing global public goods aimed at tackling equity and inclusion in education, and gaps

Based on a review of available information together with consultations with key stakeholders, a range of existing global public goods associated with tackling equity and inclusion in education have been identified. These include the use of household surveys to provide disaggregated data that help identify education disparities; support to equity and inclusion in education planning and programs; and resources that provide evidence on innovation and good practices. A snapshot of the most prominent global goods is described in this section, and Annex B lists additional public goods in these three areas.

Data disaggregation facilitating the identification of education disparities

A key area in which investments are currently being made with respect to global public goods is the disaggregation of data. In this respect, the Inter-Agency Group on Education Inequality Indicators,[35] led by the UIS, UNICEF and the World Bank, works to harmonize definitions of different characteristics, such as measures of wealth; document, evaluate and pool survey data sources; publish estimates periodically in a report; consult with countries; advise on education questions in surveys; and incorporate information from administrative data. It will be important to maintain the momentum of this group while ensuring its work is readily available, with national governments informed of developments. The Education Equity Research Initiative, convened by FHI360 and Save the Children, has also aimed to improve alignment in equity-related indicators, including by producing a guidance document, *Practical Recommendations for Equity Analysis in Education.*[36] The UNICEF and UIS Out-of-School Children Initiative, supported with a grant from GPE, produced a guide for disaggregating data to create profiles of which children are out-of-school, which has been applied in a large number of countries and regions.[37]

As indicated above, there have been improvements in certain areas of disaggregation, notably on identifying children with disabilities. However, reliable data remain scarce. A 2018 review by the UIS was only able to identify data for 49 countries with education indicators that can be disaggregated by disability status. Information on out-of-school rates, which requires data on current school attendance together with identification of disability, is limited to only six countries.[38]

Interactive databases that demonstrate education inequality are available from a variety of sources and have been used to provide user-friendly visualizations of access and learning gaps by different forms of disadvantage. The World Inequality Database on Education (WIDE),[39] developed by the Education for All Global Monitoring Report in 2010 (and now jointly maintained by the Global Education Monitoring Report team at UNESCO and the UIS), has been extensively used by international

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[35] http://iag.uis.unesco.org/.

[36] Carina Omoeva et al., *Practical Recommendations for Equity Analysis in Education* (Washington, DC: FHI360 and Save the Children, 2017).

[37] https://www.globalpartnership.org/funding/gra/#out-of-school-children\,-access-and-equity; UNICEF and UIS, "Global Out-of-School Children Initiative: Operational Manual." Global Initiative on Out-of-School Children(New York: UNICEF and Montreal: UNESCO Institute for Statistics, April 2015).

[38] UIS, "Education and Disability: Analysis of Data from 49 Countries," information paper 49, UNESCO Institute for Statistics, Montreal, 2018.

[39] https://www.education-inequalities.org/.

organizations to demonstrate wide inequalities that exist, and vary across and within countries. In the first eight months of 2018, it was accessed over 60,000 times. A range of indicators are included on school access across different levels of education using DHS and UNICEF MICS data, with fewer on learning, in part owing to more limited sources of comparable data available.

Using the same household data sets as WIDE, Save the Children has more recently developed an interactive database—Group-based Inequality Database (GRID)[40]—enabling tracking of progress toward selected SDGs, showing current trends and progress needed to achieve the goals. It includes progress toward completion of primary, lower secondary and upper secondary school. The database is connected with Save the Children's work on developing interim stepping-stone targets to identify whether progress of disadvantaged groups is improving at a sufficiently fast rate to achieve the goals.[41]

Both these databases provide disaggregation according to socioeconomic groups, girls and boys, urban and rural areas, and subnational regions/ethno-linguistic groups, and allow for analysis of intersecting disadvantage.

The Our World in Data website is another source that provides interactive trends.[42] To date, the main disaggregation for inequality is by gender on selected access and learning indicators.

Sex-disaggregated data is a given for key education indicators. It is essential not just to collect and analyze sex-disaggregated data for indicators related to equity and inclusion, but also to analyze these data properly with a gender perspective. The recent Global Disability Summit further highlighted the importance of extending identification of disability within data sets, with a number of national governments and donor organizations committing to use the short set of questions developed by the Washington Group on Disability Statistics. This is an important step forward. However, these questions are of most relevance to adults. To be useful for education planning, it is important that the use of the longer Child Functioning Module is promoted.

Use of disaggregated data to inform equity and inclusion in education planning and programs

Use of disaggregated data can improve national education planning. Even though greater efforts are in place to disaggregate data and to make them available in user-friendly formats, in reality these are rarely used for tracking progress toward national education targets. A review of 75 national education plans (including plans for all GPE DCPs, and additional plans from other countries) identifies that the most common form of disaggregation is by sex. With respect to primary school participation, of the 56 plans that included an indicator proposing any form of disaggregation, 33 proposed to disaggregate by sex, 12 by location (usually rural/urban), 11 by disability and just two by wealth. Only 28 of the 75 countries identify any indicator for learning in the upper grades of primary education, and of these just five have any indicator for equity in learning at this level, all of which are by sex, with one also proposing to disaggregate by location.[43] This implies that while data disaggregation is becoming more common, its use by national governments remains limited.

Despite this, it is apparent that national governments do recognize the challenges that children from disadvantaged backgrounds face. A GPE Secretariat analysis of 18 ESPs identified that the majority identified strategies for children with disabilities, girls, children from the poorest households and

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[40] https://campaigns.savethechildren.net/grid.

[41] Lisa Wise and Róisín Hinds, *Realising the Pledge to Leave No One Behind: A Promise to Reach Every Last Child* (London: Save the Children, 2016).

[42] https://ourworldindata.org/.

[43] Ben Alcott et al., "Three Steps to Help Policymakers Measure Equity in National Education Planning," Data for Sustainable Development (blog), UNESCO Institute for Statistics, June 21, 2018.

children from rural/remote areas. Other disadvantaged groups were less frequently recognized, such as displaced populations, pastoralists, ethnic and linguistic minorities, and street children. These are also groups for which data are less readily available. A priority for global public goods will be, therefore, to identify ways to encourage national governments to make better use of disaggregated data to show their commitment to leaving no one behind while also finding ways to extend data availability to currently invisible groups.

One such initiative is UNICEF's MICS-EAGLE (Multiple Indicator Cluster Survey-Education Analysis for Global Learning and Equity), which promotes a mixture of standardized templates and country-specific analysis following stakeholder consultations, for disaggregating data from its MICS household surveys.[44] The initiative includes equity analysis of foundational learning using data on learning outcomes available in the most recent round of MICS.

Diagnosis of equity and inclusion in education plans

There is a growing portfolio of tools being developed by international organizations—including GPE, the IIEP and the World Bank—to support countries in diagnosing the challenges in their education systems, to be addressed in planning. These tools address issues of equity and inclusion to varying degrees. One example is the World Bank's Systems Approach for Better Education Results (SABER) tool on equity and inclusion. Their usefulness to country partners will need to be assessed as they are implemented, including to identify whether and how they strengthen equity and inclusion effectively in both planning and implementation.

Promoting equity and inclusion in public financing allocations

Global public goods that improve financial planning for equity and inclusion require financial data to be available across different sources, including from national governments, donors, nongovernmental organizations (NGOs), the private sector and households. This in turn allows analysis of who is benefiting from and who is paying for education. Such comprehensive information needs to disaggregate according to different population groups to identify, for example, if poorer households receive more funds or have a greater burden in paying for their own education. National education accounts are an important step forward in this regard, with lessons learned from approaches used in the health sector. A project examining national education accounts funded by GPE and implemented by the UIS and IIEP-UNESCO (Paris and Dakar) developed a methodology for this purpose, and implemented the methodology across eight countries.[45] In moving forward, it will be important to extend the number of countries for which these data are available, ensuring they are available in a user-friendly format for analysis by national governments as well as by NGOs, researchers and others for the purposes of holding stakeholders to account for their commitments.

It is also vital to know how funds are being distributed within countries and spent within schools from a progressive universalism perspective. Formula funding and school grants are mechanisms used in some countries that have the potential for tackling inequalities. While there is some information on the use of these mechanisms in middle-income countries, less is known about whether and how they are used in low-income countries, although guidelines have recently been developed for low-income countries based on a review of 14 countries conducted by the IIEP.

Evidence on approaches to tackling equity and inclusion

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44 http://mics.unicef.org/methodological_work/6/MICS-EAGLE.

45 UIS and IIEP-UNESCO, *Who Pays for What in Education? The Real Costs Revealed through National Education Accounts* (Montreal: UNESCO Institute for Statistics, 2016).

Recent systematic reviews of evidence on education, and learning in particular, have highlighted gaps in research of the impact of interventions from an equity perspective. [46] This is in part due to methodological limitations of experimental designs that would require greater consideration to over-sampling of particular population groups, for example. Such consideration is vital to ensure that interventions do not widen inequalities further, even if they are found to improve outcomes on average. To give one recent example, a teacher performance pay program in Tanzania was found to improve learning on average; however, there was also some evidence that this was in part due to teachers focusing more on more able children. As with many other studies of this kind, the evidence does not identify how the intervention affected children from different backgrounds.[47]

Technology is one approach that is sometimes proposed for tackling equity and inclusion. However, the most effective approaches to this, including consideration of other institutional reforms needed, is not sufficiently known. The newly established U.K. Department for International Development (DFID)-funded EdTech hub will hopefully help address this gap.

For national governments and international agencies committed to achieving education equity, questions remain of what to prioritize in the context of scarce resources. The recent comprehensive systematic review on education identified that few studies currently provide cost-effectiveness analysis of interventions. Even fewer do so taking equity into account. A recent approach to this has been developed using data from Camfed's program supporting girls' secondary education in Tanzania, funded as part of DFID's Girls' Education Challenge program. The results show that a holistic approach can achieve high impact. While the cost of reaching marginalized girls is likely to be higher than for the population on average, given the high impact, it is at least as cost-effective as other programs that aim to reach more privileged populations. For example, a merit-based scholarship program in Kenya was lower cost with lower impact. Extending such analysis to other programs will help national governments and international agencies make informed choices.

While ensuring all children, regardless of their background, achieve their potential in education is enshrined in human rights conventions as well as being central to the Sustainable Development Goals, there remains a need to identify how it can benefit different social outcomes to provide evidence for national governments and international agencies. Some such evidence has been provided by the Global (Education) Monitoring Report, UNICEF, and the Education Commission.[48] However, further development of this evidence base, including attention to identifying causality between education equity and outcomes, is desirable.

To address some of the methodological limitations in developing evidence on equity in education and to identify new approaches, DFID has committed funding under the approved Better Education Statistics and Global Action to Improve Learning program. This includes consideration of the need for new collaborations between researchers trained in rigorous empirical methods (for example, field experiments) and experts in curriculum and pedagogy, and with political economists and sociologists who could explain not only whether but also why an intervention worked and for whom. Examples of areas that could be covered include development of more flexible research methods such as those applied in conflict-resolution research to be adapted to education questions. In addition, research in the health field on child and parental violence uses methods to analyze noncognitive skills (such as decision-making and problem-solving) that could be applied to the education sector.

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[46] Birte Snilstveit et al., *Interventions for Improving Learning Outcomes and Access to Education in Low- and Middle-Income Countries: A Systematic Review,* 3ie Systematic Review 24 (London: International Initiative for Impact Evaluation [3ie], 2015).

[47] Twaweza, *Teacher Incentives in Public Schools: Do They Improve Learning in Tanzania?* (Dar es Salaam: Twaweza, 2018).

[48] UNESCO, *Teaching and Learning: Achieving Quality for All.* EFA Global Monitoring Report, 2013-2014 (Paris: UNESCO, 2014); UNESCO, *Education for People and Planet: Creating Sustainable Futures for All,* Global Education Monitoring Report 2016 (Paris: UNESCO, 2016); UNICEF 2015*;* Education Commission 2016.

6. Gaps in existing global public goods

The previous section highlights some areas where global public goods related to equity and inclusion are available as well as areas requiring further development. The need for equity and inclusion in education is now well established in international frameworks, and some networks and institutions are in place to provide aspects of global goods that are needed. Substantial additional work is still needed to produce these global goods. Gaps include the gathering and use of disaggregated data on marginalized groups, support to education planning including through better system diagnostic tools related to equity and inclusion, guidance on targeted interventions to reach disadvantaged groups, better approaches for ensuring accountability and that the voices of disadvantaged groups are heard, innovation and guidance in equitable financing, and development and use of appropriate research methodologies for understanding the challenges and identifying evidence-based solutions.

7. Potential areas for investing in global public goods

Based on the evidence that sets out the challenges associated with leaving no one behind in education as outlined in section 2 together with consultations with stakeholders, the following areas have been identified as potential priorities for GPE's investment in global public goods. The focus is primarily on strengthening education data and planning within GPE DCPs. Documentation of approaches and evidence supported by activities that promote peer learning would be particularly valuable to ensure initiatives are successful.

Collect data on invisible groups

- Develop approaches to collect data on groups currently absent from or invisible in data sets that are likely to be particularly relevant for national education planning, including nomadic or urban informal settlement populations, street children, children in institutions, ethnic or religious minority populations, LGBTI children and adolescents, refugees and internally displaced populations. This requires ensuring that they are included in data collection of censuses or sample designs of household surveys (with samples of sufficient size to allow for disaggregation, allowing for over-sampling where needed). This would include consideration of innovative approaches to data collection of hard-to-reach groups through, for example, the use of mobile phones or satellite imaging.
- Develop guidelines on how to collect data that might be considered politically sensitive—for example, on race and ethnicity, LGBTI, HIV and AIDS—including ethical guidelines to ensure appropriate approaches are adopted for tackling sensitivities when collecting data such as for those who have experienced trauma (for example, due to conflict), have experienced abuse or neglect (for example, orphans) or face stigmatization (for example due to disability, or HIV and AIDS).
- Promote more systematic use of data identifying children with disabilities to assess their access and learning opportunities both through household surveys and EMIS data systems; systematically collate such data, building on work by the UIS.
- The above approaches currently rely primarily on existing household survey data. EMIS rarely include disaggregation beyond sex. For these systems to effectively include disaggregation of data of other marginalized groups, there is a need for the development of more radical reform of the approaches to data collection. These issues are discussed in depth in the KIX thematic paper on data.

- Develop approaches to learning assessments that are more inclusive, enabling the participation of children with different types of disabilities, or who might otherwise be excluded if they are not at school.

Use disaggregated data more effectively

- Build on existing approaches that have made data available in user-friendly online formats (such as the WIDE and GRID databases) to ensure systematic and timely inclusion of indicators associated with SDG 4 that can be disaggregated:
  - For WIDE, this is likely to include ensuring regular updates of the data with careful quality controls, and could extend to the availability of a help desk to respond to enquiries and/or provide tailored support to countries.
  - Both WIDE and GRID data could benefit from further incorporation of learning data. The Learning-Adjusted Years of Schooling database, recently developed by the World Bank as part of the Human Capital Index, is one potential source. However, these data require further work to provide disaggregation. Such data also need to ensure they take account of the learning of children not in school (so both access and learning are considered simultaneously).
- Work with national governments to promote the use of, and build capacity in, disaggregated data in their planning, including indicators in plans disaggregated by relevant forms of disadvantage, and to adopt a stepping-stone approach to tracking progress. This could include more practical, accessible guidance on analysis and interpretation of survey data for national education planners. Better use of existing internationally comparable sources, including linking different national data sources (including EMIS and household surveys), is a priority in this regard.
- Identify how data from existing sources can be used more effectively within countries, including ensuring the tracking of SDGs is disaggregated by different forms of disadvantage that are currently less visible.
- Technology can be an important way to collect timely, disaggregated data for these purposes that are also presented in user-friendly ways for use within countries. This topic is covered in detail in the KIX thematic paper on data.

Systematically include equity in education planning

- Identify ways to ensure every national education plan includes a systematic diagnosis of the problem from the perspective of equity and inclusion, with costed strategies for addressing these. This requires disaggregating data on equity and inclusion as a starting point, identifying which groups are most disadvantaged within a national context, being up front about potential trade-offs and how these will be tackled. It further requires approaches that ensure equity and inclusion are integrated into both national education and development plans, not considered separately from these. Approaches to closer linking of national education and development plans are also vital in recognition of the importance of cross-sectoral reforms needed to tackle multiple disadvantages in education.
- Develop guidance on how to include equity and inclusion within national plans (through a combination of mainstreaming and targeted analysis), including monitoring of how this is being undertaken. Such guidance should make use of existing equity and inclusion frameworks, making sure these are feasible in resource-constrained contexts with limited capacity.
- Ensure such guidance takes account of the support needed to teachers in diverse classrooms, as well as ensuring curriculum and assessment reform takes account of equity and inclusion. This could include, for example, consideration of the pace of the curriculum for first generation

learners, and assessment systems that enable the inclusion of children with different types of disability.

- Review national approaches on addressing equity and inclusion in government structures for planning—whether through specialized units or other means—to develop lessons for other countries.

Identify approaches for groups requiring targeted support

- Support the newly established Inclusive Education Initiative launched by DFID, the Norwegian Ministry of Foreign Affairs, and the World Bank to identify priority areas for national governments in promoting approaches to supporting children with disabilities.
- Identify successful examples of reaching other groups with relevant, quality education experiences, such as street children, children living in institutions, pastoralist children, children living in urban slums or remote rural areas, and others. Where relevant and appropriate, provide guidance on potential recommended approaches to supporting specific groups of children, recognizing the challenges are likely to be context-specific and need to be adapted accordingly.
- Identify successful examples of teacher training and school leadership training for equity and inclusion, including in the context of diverse classrooms.
- Identify where evidence shows that interventions that have not worked in reaching the most marginalized, and whether this is due to inappropriate design, financial constraints (for example, the amount of resources and their distribution, as well as whether they reach those most in need), lack of political commitment to their implementation, or other reasons.

Strengthen equitable planning and accountability systems, and make them more inclusive

- Identify positive approaches being used within countries to promote accountability with equity—for example, related to teacher incentives—to provide lessons for other countries.
- Support approaches by local community groups, civil society organizations and teacher unions to advocate for strategies to promote equity in education within countries, ensuring that these groups have access to disaggregated data and evidence to inform their advocacy.
- A variety of networks and institutions will likely be needed to ensure effective channels, from generating evidence, to using the evidence to generate policy, and then turning the policy into action at school and classroom levels. While some networks and institutions already exist, there is a need to assess their effectiveness for this purpose, including with respect to potential gaps in coverage of the most marginalized groups.
- To ensure effective approaches that are sensitive and familiar with the context, there is a need for convening and coordinating mechanisms that engage representatives of marginalized groups themselves, including through South-South networks. Camfed's CAMA network of marginalized young women who have benefited from education is one example that could be learned from and built upon. Another is the PAL Network's South-South collaboration. There is a need to develop such networks within different country contexts to ensure marginalized voices inform the planning and implementation processes.
- To ensure inclusion in the design, implementation and accountability of global public goods (whether focused on equity and inclusion as well as more broadly), there is also a need to consider accessibility—for example, languages used—and approaches to include those with different types of disabilities.

Develop approaches to domestic and aid financing for progressive universalism

- Develop principles for national governments and aid donors to adopt a progressive universalism approach, taking account of the stage of development of education systems.
- Adopt the methodology for national education accounts more systematically across countries, ensuring timely and regular collection of reliable finance data from different sources, including on domestic and aid spending, household spending and other sources, and provide disaggregation according to different population groups to assess who pays and who benefits from the spending.
- Review of national approaches to spending school grants to address disadvantage and of national funding formulas for the redistribution of resources to provide lessons for other countries.
- In the context of moves in some countries to extend policy commitments to 12 years fee-free education, identify viable policy options for increasing secondary education that does not have adverse effects on prior levels of education, and that ensures the most disadvantaged benefit.
- Recognizing the challenges of rapidly expanding formal secondary schooling in some contexts, review approaches that countries have adopted for alternative models of delivering secondary level education, with guidance on the costs of such provision as well as of accreditation, teacher recruitment and so on.
- Review the 2016 Global Education Monitoring Report framework for adoption to assess country commitment to equity through financing (Table 1).

Table 1. A framework to assess country commitment to equity through financing

	Question	Elaboration
1	Is the legal framework explicit on the obligation of the government to address disadvantage in education?	The commitment would be considered strong if the needs of several disadvantage groups were addressed through laws, as well as specific regulations on school funding.
2	a. Is the provision of universal and free pre-primary, primary and secondary education a directive principle of state policy?	The commitment would range from minimum when feeds exist in pre-primary, primary and secondary education to maximum if there is free universal education at each level.
	b. In the case of payments that can have a detrimental impact on the education opportunity of disadvantaged children, does the government offer waivers?	The commitment would be highest if there were waivers or other mechanisms to compensate for costs such as textbooks, school transport or uniforms.
3	a. Are there policies to provide more resources to students from disadvantaged households?	The commitment would be strong if there were policies that provided resources to students from disadvantaged households, such as cash transfers, grants, scholarships and in-kind incentives such as school meals.
	b. …. and if so what share of total public education and/or social protection spending is being reallocated…	i.e. what is the depth of the intervention

	c. …and what percentage of the student population does it reach	i.e. what is the coverage of the intervention
	d. How are targeting decisions made…	i.e. is there any targeting, are criteria clear and can records be checked
	e. …and is the success of targeting monitored and evaluated?	i.e. does the country have a well-developed M&E system analyzing beneficiaries and feeding into policy
4	a. Are there policies to provide more resources to disadvantaged schools?	The commitment would be strong if schools that were disadvantaged due to their student intake, size or location get extra resources to compensate for their higher costs, through weighted per-pupil funding rules
	b. …and if so what share of total public education spending is being reallocated c. …and what percentage of schools does it reach	i.e. what is the depth of the intervention i.e. what is the coverage of the intervention i.e. is there any targeting, are criteria clear and can records be checked
	d. How are targeting decisions made …and is the success of targeting monitored and evaluated?	i.e. does the country have a well-developed M&E system analyzing beneficiaries and feeding into policy
5	Are there policies to provide resources to more disadvantaged regions?	The government would be strong if decentralization of education responsibilities to lower tiers of government were accompanied by additional financial support to regions whose relatively fewer resources put them at a disadvantage.

Source: UNESCO 2016.

Undertake, promote and use rigorous evidence to identify what works at scale for achieving equity in education, and on benefits of equitable education for social development

- Develop and promote the use of methodological approaches for impact evaluations of programs at scale, together with cost-effectiveness analysis, to take account of equity, including on intersecting disadvantage. Such approaches need to ensure that disadvantaged populations are included in the interventions (this may require ensuring geographical coverage or, in some circumstances, specifically focused programs, for example, on conflict-affected areas). They also need to take account of both access and learning, to provide evidence on how to avoid trade-offs. This should also take account of methods that can identify the impact of multiple interventions, aimed at tackling the different dimensions of disadvantage that the most marginalized face—both within and beyond the education sector.
- Use existing data to undertake cost-effectiveness analysis with equity of programs aimed at reaching the marginalized at different levels of education.
- Develop and promote the use of robust methodological approaches for evidence on sensitive topics, for which conventional approaches to impact evaluation are not feasible or appropriate—such as gender-based violence, education in conflict settings or children who

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face stigma because of a disability. Such methodologies could also consider including the voices of marginalized populations to ensure a better understanding of the problems they face, and the potential solutions.

- Develop research to understand the effects of discrimination of disadvantaged groups on their education opportunities, and evidence on the effectiveness of approaches to tackle this.
- Develop evidence in areas that are likely to have the greatest impact on the most marginalized but where gaps currently exist—for example, on early childhood education where diverse forms of provision are often available but may not equally accessible to all; on how best to support teacher skills for improving children's learning of the basics, particularly for children with disabilities; and on approaches to education for street children or children in institutions.
- Identify countries that have succeeded in reducing inequalities while increasing access and learning, and assess the conditions under which this has happened to draw lessons for other countries, including using longitudinal and other relevant data, and understanding the reasons for failure where reforms have not worked effectively (including whether, for example, this was due to inappropriate design or political and financial constraints).
- Undertake new analysis to identify benefits of equitable education for wider social development outcomes. This requires adopting approaches that enable a better understanding of the causal mechanisms through which equitable education can achieve societal benefits.

Table 2. Gaps and examples of potential investment areas

Investment area	Example activities			
Data	Collect data on invisible groups and exclusion in EMIS and household surveys	Classroom observation and system diagnostic tools	Work with national governments to use disaggregated data more effectively	Build on international databases and include more learning data
Planning	Guidance on including equity in education planning	Identify approaches for groups requiring targeted support	Build networks and evidence on inclusive accountability systems	Consider curriculum and assessment systems for diverse learners
Funding	Develop approaches to domestic and aid financing for progressive universalism e.g. national education accounts	Identify school grants and funding formulae for redistribution of resources	Identify options for expanding secondary education in an equitable way	Cost-effectiveness analysis of targeted programs
Research	New approaches	Sensitive topics,	Research on 'high-	Country cases of

and evaluation	to evaluating equity impacts	discrimination, and voices of the marginalized	impact' areas for the most marginalized, e.g. ECCE	reducing education inequalities and benefits of equitable education for social development

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Annex A: GPE fact sheet on equity and inclusion

Two Results Framework indicators are related to equity and inclusion: indicator 9 (proportion of developing country partners (DCPs) showing an improvement on their equity index) and indicator 16c (Proportion of ESPs/TEPs with a strategy to respond to marginalized groups that meets quality standards, including gender, disability and other context-relevant dimensions). [49] Other Results framework indicators capture DCP achievement in gender equality (indicator 5 and 8) but these indicators have been discussed in the gender equality factsheet. Despite the challenges faced by GPE DCP related to equity and inclusion, overall, there is a strong improvement in terms of equity between 2010 and 2016. The quality of the strategy designed to tackle equity issues in education sector plans experienced a strong improvement in 2017.

Key results
### Equity and inclusion (Indicator 9)

GPE DCPs have made considerable progress in terms of overall equity, as demonstrated by the improvement in GPE's equity index (Indicator 9). Indicator 9 captures the proportion of countries that exhibit more than 10 percent increase in the equity index, which captures three dimensions collectively: gender, location and socioeconomic status. Thirty-seven percent of DCPs, including countries affected by fragility and conflict, registered an increase in the equity index of more than 10 percent between 2010 and 2015. The proportion of DCPs showing improvement between 2010 and 2016 in the equity index increased to 42 percent (41 percent in countries affected by fragility and conflict), thus meeting the milestone set for 2017.

Improvement in the equity index between 2010 and 2016 is mostly driven by improvement in equality with respect socioeconomic status and location. Figure 1 shows that the gender parity dimension of the equity index with the highest level of achievement registered the slowest improvement between 2010 and 2016 (6 percent). In contrast, the socioeconomic dimension of the equity index improved by 11 percent between 2010 and 2016, although the level of achievement is the lowest. In addition, 36 percent of DCPs made progress in terms of equity with respect to socioeconomic status, as compared to 25 percent for the gender dimension of the equity index. This means that there is a need for increased attention regarding gender equality in GPE developing country partners.

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[49] There is no breakdown by gender for these three indicators in the Results Framework

Figure 1: Equality related to socioeconomic status experienced the strongest improvement between 2010 and 2016

Improvement in gender, location and socioeconomic indices 2010-2016 (left) and proportion of countries making progress between 2010 and 2016 by dimension of the equity index (right)
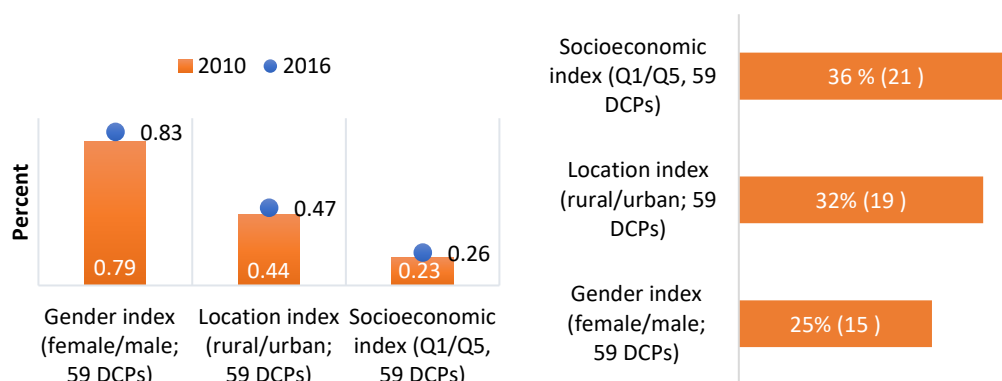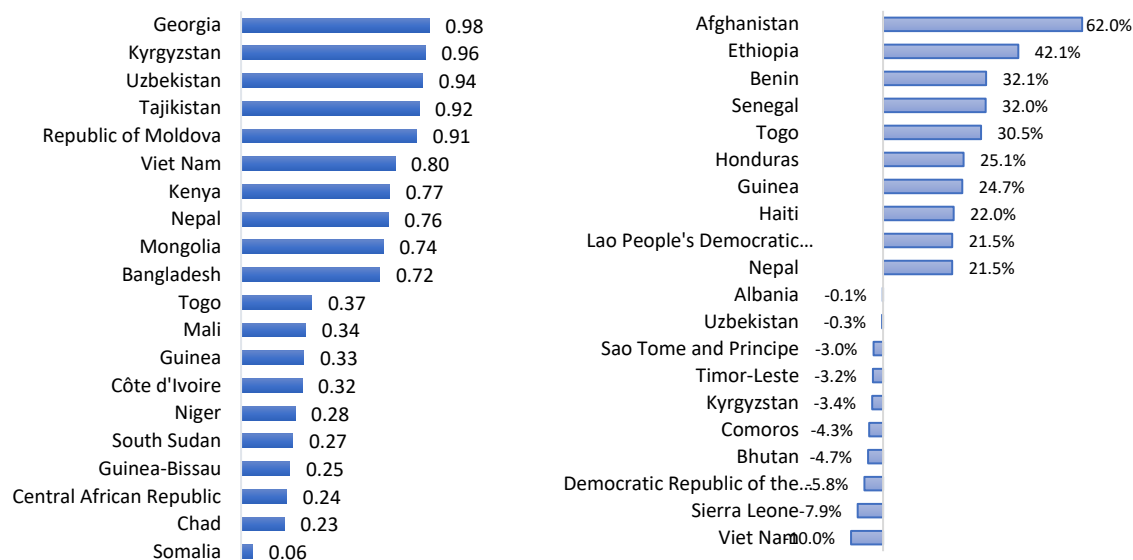

Source: GPE compilations based on UIS and UNESCO WIDE
Note: A total of 59 DCPs (27 countries affected by fragility and conflict) are included in the calculation of the equity index.

Countries such as Georgia, Kyrgyzstan and Uzbekistan have registered the highest achievements in terms of equity in basic education completion while other countries such as Somalia, Chad and Central African Republic are lagging. While some of the DCPs experienced an increase in terms of equity in education completion, other countries registered a decrease in their equity index between 2010 and 2016.

Figure 2: Equity in access to education has deteriorated in some GPE countries

Equity index by country, 2016 (left) variation (in %) of the equity index between 2010 and 2016 (right)
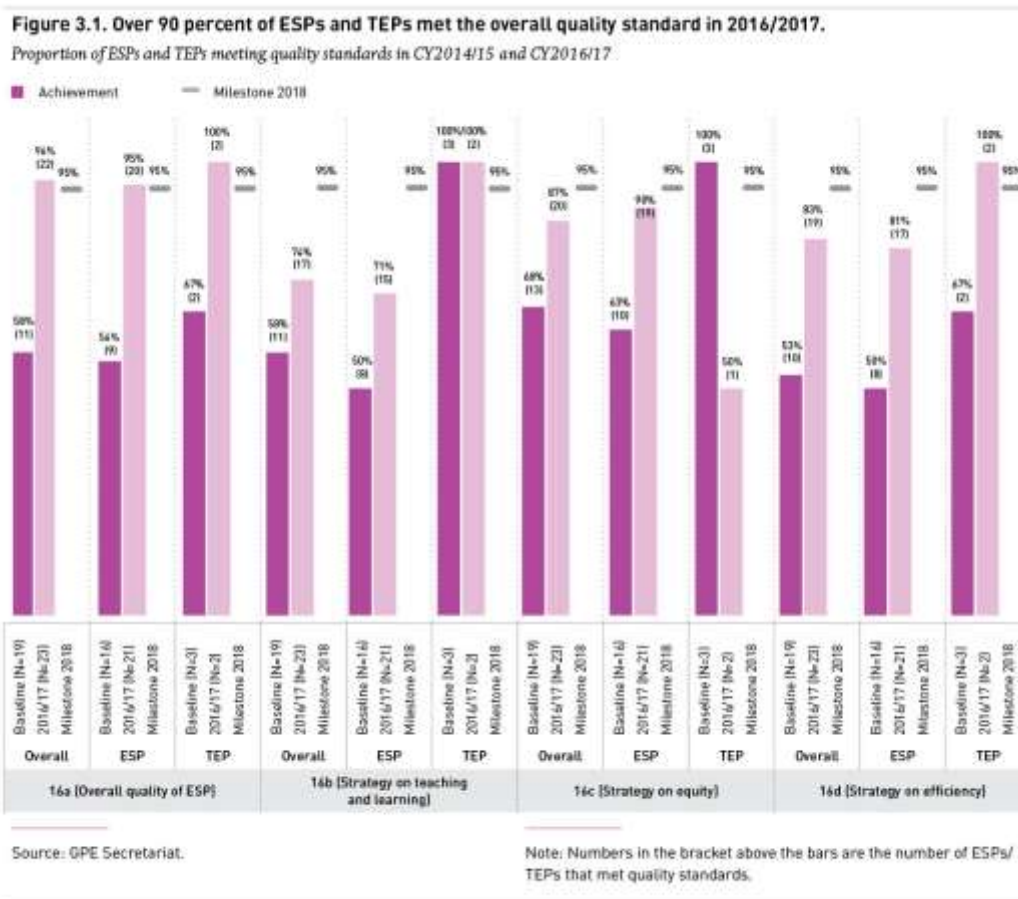

Source: GPE compilations based on UIS and UNESCO WIDE. 29 countries have available data for the equity index.
Note: A total of 59 DCPs (27 countries affected by fragility and conflict) are included in the calculation of the equity index. Only the top and the bottom 10 countries are presented in this figure.

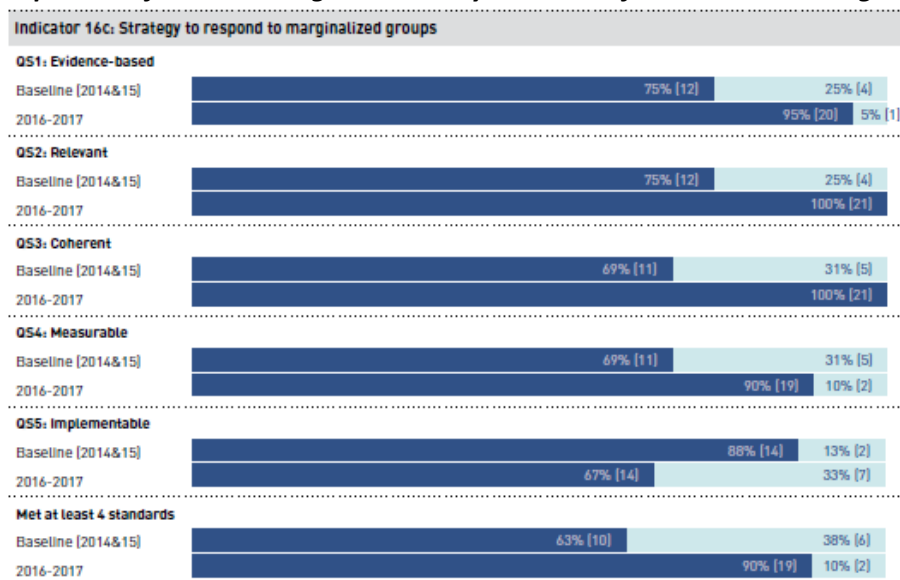***Quality of the equity strategy (indicator 16c)***

No milestone is set for the proportion of ESPs/TEPs that have an equity strategy meeting quality standard (indicator 16c) for 2017. However, data show strong progress on the quality of ESPs/TEPs in general including the equity strategy (Figure 3.1 of Result Report as below). 87 percent of ESPs/TEPs (20 out of 23) met the overall quality standard on the equity strategy in 2016/2017 up from 68 percent (13 out of 19) at baseline in 2014/2015. All dimensions of the quality of the equity in ESPs experienced an improvement except the implementation component (Figure 3).

Figure 3.1. Over 90 percent of ESPs and TEPs met the overall quality standard in 2016/2017.

Proportion of ESPs and TEPs meeting quality standards in CY2014/15 and CY2016/17

Source: GPE Secretariat.

Note: Numbers in the bracket above the bars are the number of ESPs/TEPs that met quality standards.

Source: GPE Secretariat (Results Report 2018, 3.1)

Note: The ESP/TEP quality is assessed using GPE's quality standard, developed jointly by the GPE Secretariat and UNESCO International Institute for Education Planning (UNESCO-IIEP). ESPs must meet at least five out of seven quality standards, and TEPs must meet at least three out of five, to reach the quality benchmark.

Figure 3: Proportion of ESPs Meeting Each Quality Standards for Thematic Strategies

Indicator 16c: Strategy to respond to marginalized groups		
QS1: Evidence-based		
Baseline (2014&15)	75% [12]	25% [4]
2016-2017	95% [20]	5% [1]
QS2: Relevant		
Baseline (2014&15)	75% [12]	25% [4]
2016-2017	100% [21]	
QS3: Coherent		
Baseline (2014&15)	69% [11]	31% [5]
2016-2017	100% [21]	
QS4: Measurable		
Baseline (2014&15)	69% [11]	31% [5]
2016-2017	90% [19]	10% [2]
QS5: Implementable		
Baseline (2014&15)	88% [14]	13% [2]
2016-2017	67% [14]	33% [7]
Met at least 4 standards		
Baseline (2014&15)	63% [10]	38% [6]
2016-2017	90% [19]	10% [2]

Source: GPE Secretariat (Results Report 2018, Appendix 3-5)

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Annex B. Examples of global public goods suggested by key stakeholders

(These examples have been provided by those consulted as part of the process of developing the paper. The list is not exhaustive, nor has it been verified by the author of this report, including about how the global public goods address issues of equity and inclusion.)

Examples of global goods that provide data on equity and inclusion

The *Disability Data Portal* is an interactive database that provides data on inclusion in education, among other topics: https://www.disabilitydataportal.com/.

The *UIS* is the custodian for most SDG 4 indicators. Its data resources are listed at http://tcg.uis.unesco.org/data-resources/ and include the following:

- *UIS.Stat* (http://data.uis.unesco.org): The online database of the UIS contains the latest available education statistics for more than 200 countries and territories. Many indicators are disaggregated by sex, location, wealth and other dimensions.
- *UIS Data API* (https://apiportal.uis.unesco.org): The Application Programming Interface (API) provides programmatic access to UIS data and metadata so that developers and researchers can extract education statistics directly from the source, including indicators that are not available in UIS.Stat.
- *SDG 4 Data Explorer* (http://tcg.uis.unesco.org/4-1-1-international-large-scale-learning-assessments-of-children-and-young-people/): This interactive data visualization displays data by country, region or year; by data source; and by sex, location and wealth. It allows users to explore measures of equality that are crucial for the achievement of SDG 4.
- *UNESCO eAtlas for Education 2030* (https://tellmaps.com/sdg4/): This online atlas presents the latest data for SDG 4 indicators in ranking tables and interactive maps that can be easily shared and embedded on websites. The atlas is available in English, French and Spanish.
- *Country profiles* (http://tcg.uis.unesco.org/country-profile/): The country profiles were designed specifically for member states and present quick facts and the latest available SDG 4 global indicators in a format that is easy to understand.
- Metadata for the global and thematic indicators for the follow-up and review of SDG 4 and Education 2030 (http://uis.unesco.org/sites/default/files/documents/metadata-global-thematic-indicators-sdg4-education2030-2017-en_1.pdf): This document describes all SDG 4 indicators, with their definition, calculation method, data sources, disaggregation, interpretation and other information.
- Education data from household survey indicator definitions (http://iag.uis.unesco.org/meetings-resources/): This document, compiled by the Inter-Agency Group on Education Inequality Indicators (IAG-EII), presents information on calculation and disaggregation of SDG 4 indicators that can be calculated from household survey data. A revised version of the document, with additional indicator descriptions, is forthcoming.
- The UIS and the World Bank recently published *Measuring Household Expenditure on Education: A Guidebook for Designing Household Survey Questionnaires.* The guidebook (http://surveys.worldbank.org/sites/default/files/publications/Education%20GB_LSMS_2018.pdf) is a reference for survey practitioners seeking guidance on designing and implementing household surveys that include measurement of education expenditure. Related to this work, the UIS also published the report *Availability and Reliability of Education Finance Data in Household Surveys* (https://unesdoc.unesco.org/ark:/48223/pf0000262804).

As part of the UNESCO Capacity Development for Education (CapED) Program, the UIS has developed a wide range of resources and tools to help countries strengthen the collection, quality and use of their data to monitor progress toward SDG 4. The resources, listed at https://en.unesco.org/themes/education/caped/resources, include tools for quality analysis of administrative data, data on government expenditure on education and education data from household surveys.

The *World Inequality Database on Education* (WIDE) is maintained as a joint product of the UIS and the Global Education Monitoring Report: https://sdg.uis.unesco.org/2019/01/24/turning-the-spotlight-on-those-left-behind-to-mark-the-first-international-day-of-education/.

The *SDG Gender Index* maintained by Equal Measures 2030 globally monitors three gender-related education indicators. Equal Measures 2030 has also developed public goods in the form of data literacy and data to advocacy training programs, which have been implemented now in six countries.

The *Teach* tool is an open-source classroom observation tool for the primary level (grades 1-6). *Teach* was developed by the World Bank Education Global Practice and is designed to help low- and middle-income countries track and improve teaching quality. It allows for data collection on how the teacher considers students with diverse educational needs in her/his classroom. *Teach* was piloted in more than 1,000 classrooms across Mozambique, Pakistan, the Philippines and Uruguay, and tested with global video footage from 12 low- and middle-income countries. In addition, there is work under way to support the professional development of teachers based on the findings of *Teach* and this work will contribute for an open-source public good in the future.

USAID, World Vision and Australian Aid have developed and piloted the Early Grade Reading Assessment tool to be used with deaf/hard of hearing and blind/low vision learners. Evaluation reports are available on the process of developing and piloting the Early Grade Reading and Sign Language Assessment and use of an adapted EGRA for blind/low vision students in India, Lesotho and the Philippines.

Leonard Cheshire Disability and Humanity & Inclusion reviewed the use of the Washington Group Questions on Disability by development and humanitarian actors in order to provide guidance to NGOs, INGOs and donors.

As part of the Out-of-School Children Initiative, UNICEF and UIS produced an Operational Manual, including guidelines for profiling out-of-school children using disaggregated data. (https://unesdoc.unesco.org/ark:/48223/pf0000247531)

UNICEF's MICS-EAGLE (Multiple Indicator Cluster Survey-Education Analysis for Global Learning and Equity) promotes a mixture of standardized templates and country-specific analysis following stakeholder consultations, for disaggregating data from its MICS household surveys.[1] The initiative includes equity analysis of foundational learning using data on learning outcomes available in the most recent round of MICS.

Examples of global public goods that support planning and programs
IIEP-UNESCO's distance education course on *"Planning for Inclusive Education"*: This course draws on IIEP expertise in education sector planning and analysis to enhance understanding of the challenges and opportunities of addressing inclusive education issues when developing education sector plans; regionally focused.

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[1] http://mics.unicef.org/methodological_work/6/MICS-EAGLE

The UIS *Handbook on Measuring Equity in Education* is intended as a resource for everyone involved in the measurement and monitoring of equity in education, especially those concerned with national policymaking.

GPE Education Sector Planning – Transitions Guide: Guidelines for supporting better education sector planning around inter-sectional marginalization and exclusion including children with disabilities.

Guidance for Developing Gender-Responsive Education Sector Plans: These guidelines, developed by GPE and UNGEI, support practitioners to refresh their knowledge of gender equality, to identify, better understand and respond effectively to gender issues in education. The guidelines are made up of 10 modules that show how to conduct gender analyses and integrate gender issues into the preparation and appraisal of education sector plans.

Check-list for National Strategies to End Child Marriage: This checklist provides a framework for Girls Not Brides members and national partnerships, as well as United Nations, donor and government stakeholders, to analyze national strategies to end child marriage. It is intended to support reflection on how they can be or were developed, what they should include and how they can be implemented. It will be relevant to stakeholders in countries where (a) a national strategy is still in development, (b) is about to be rolled out or (c) is currently being implemented.

The *INEE Minimum Standards,* associated tools and resources (for example, Guidance Note on Gender, *INEE Pocket Guide to Inclusive Education,* and so on). Inter-Agency Network for Education in Emergencies (INEE) working groups are currently developing additional global goods such as a measurement toolkit for psychosocial support and social emotional learning.

Universal Design for Learning to Help All Children Read: Literacy toolkit for children with disabilities. USAID's Reading Team is commissioning a landscape review of best practices in what works for improving literacy outcomes for children with disabilities.

Costing Equity Report: This knowledge product outlines the case for investment for inclusive education for children with disabilities and presents recommendations and options for financing disability-inclusive education.

Including Children with Disabilities in Humanitarian Action: Education, produced by UNICEF, provides practical tips and offers entry points for making sure that education in emergencies takes children with disabilities into account. http://training.unicef.org/disability/emergencies/education.html

Guide for Including Disability in Education Management Information Systems, produced by UNICEF, makes recommendations for how school questionnaires can gather better data on children with disabilities and reports on a field test in Tanzania.
http://training.unicef.org/disability/emergencies/downloads/UNICEF_guide-for-including-disability-in-education-management-information-systems.pdf

Methodological Guidelines for Education Sector Analysis: UNICEF and UNESCO IIEP, with support from GPE, are developing a new chapter on inclusive education sector analysis.

Networks such as CEDAW, INEE and the Inclusive Education Initiative also support planning and programs in relation to gender, conflict-affected areas, and children with disabilities, respectively.

Examples of global public goods in the area of innovations and evidence of good practices

Cost-effectiveness analysis of interventions: Recent comprehensive systematic reviews on education identified that few studies currently provide cost-effectiveness analysis of interventions. Cost-effectiveness analysis of programs such as that of a Camfed program supporting girls' secondary education in Tanzania[2] have made possible comparisons between holistic, strongly targeted programs and lower-cost but less equity-focused programs. Extending such analysis to other programs will help national governments and international agencies to make informed choices.

School health: GPE, Disease Control Priorities, and the World Bank have jointly developed *Optimizing Education Outcomes,* a report proposing a package of school health investments for low- and lower-middle-income countries, with the aim of supporting policymakers to make high-return, affordable investments in this area (https://www.globalpartnership.org/content/optimizing-education-outcomes-high-return-investments-school-health-increased-participation-and-learning). Sightsavers and Partnership for Child Development, with GPE funding, implemented the School Health Integrated Programming (SHIP) initiative (2014-2018), which aimed to strengthen collaboration between ministries of health and education and improve capacity for joint planning and implementation of integrated school health and nutrition programs in several countries. The initiative produced global guidelines on deworming and eye health, a teachers' handbook on inclusive school health and nutrition, and an analysis of the cost of integrated school-based vision screening (https://www.globalpartnership.org/funding/gra).

Plan International's Champions of Change model has been used and adapted in Africa, Asia and Latin America and works with girls, boys and teachers to understand the root causes of gender inequality and the role that education plays to challenge harmful gender norms. In general, there is a limited understanding in the sector of how education should promote gender equality through education and the critical role education should play, from the earliest stages (ECD/preschool), in disrupting harmful social and gender norms.

Guidelines for the design and implementation of school grants policies were published in 2018, along with a video series to support dissemination and capacity development. Following desk reviews by IIEP-UNESCO and the Centre for Education Policy Development in South Africa, school grants were studied in 14 countries, the last five with GPE financial support: eastern and southern Africa: Ethiopia, Kenya, Lesotho, Malawi and Uganda; East Asia and the Pacific: Indonesia, Mongolia, Timor-Leste and Vanuatu; Latin America and the Caribbean: Honduras and Haiti; Francophone Africa: Madagascar, the Democratic Republic of Congo and Togo.

Evidence for national governments and international agencies: There is a need to identify how all children have the right to achieve their potential in education regardless of background and how it can benefit different social outcomes. Some such evidence has been provided by the Global Education Monitoring Report as well as by the Education Commission.[3] However, further development of this evidence base, including attention to identifying causality between education equity and outcomes, is desirable.

The *Population Council* is working to map the girls' education ecosystem of policymakers, practitioners, researchers and advocates to synthesize what works and identify opportunities to scale up successful interventions and investments.

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[2] Ricardo Sabates et al., "Cost-effectiveness with Equity: Raising Learning for Marginalised Girls through Camfed's Programme in Tanzania," policy paper 18/2, REAL Centre, University of Cambridge, United Kingdom, 2018.
[3] UNESCO, *Teaching and Learning: Achieving Quality for All,* EFA Global Monitoring Report, 2013-2014 (Paris: UNESCO, 2014); Education Commission, *The Learning Generation.*

USAID, World Vision and Australian Aid evaluated *technology-based innovations* to improve early grade reading outcomes in developing countries that were implemented as part of the All Children Reading Grand Challenge for Development.

UNICEF Kits for accessibility enhancement in education in emergencies: Supplies items and activity guidelines for their use by teachers/facilitators (for example, magnifying glasses, school in box, tactile globes); by 2016 the kits had been distributed in more than 40 countries.