

ENSURING EQUAL ACCESS TO EDUCATION IN FUTURE CRISES:

Findings of the New Remote Learning Readiness Index



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About the index

1. The Remote Learning Readiness Index (RLRI) is a new composite indicator to measure countries' readiness to deliver remote learning in response to school closures or the disruption of in-person learning. The index is composed of three domains: households, a government's policy response capacity, and the emergency preparedness of the national education sector.
2. The household domain evaluates the household environment for remote learning using access to technology and mother's education level as proxies. The policy response domain uses the governmental response to COVID-19 as a proxy for the agility and adaptivity of policy during times of crisis. The system-level emergency preparedness domain utilizes UNICEF's Strategic Monitoring Questions to assess whether the education sector has the capacity and adequate resources to ensure that the education system can continue functioning during times of crisis.
3. The index ranks countries' performance, with countries at the top receiving five stars and those at the bottom one star. Results are presented for (a) the overall education system from pre-primary to upper secondary, and (b) by level of education. For each level of education, the result can be decomposed by domain to identify the key areas in which the overall score could be improved.
4. The index reinforces the importance of investment into remote/digital tools to deliver education, which however should not be done at the expense of in-person learning. Whilst resilience of education systems to pivot in the face of extreme situations is crucial, the ability to go to school remains paramount for children's overall development and wellbeing.



Key messages

1. Among the 67 countries analyzed, 19 have above-average remote learning readiness (i.e., four or five stars), 17 have average remote learning readiness (i.e., three stars) and 31 countries have below-average remote learning readiness (i.e., one or two stars).
2. More than 200 million students reside in the 31 countries with a rank of one or two stars, and 102 million of these students come from 14 countries where at least 50 per cent of in-person learning time was lost to full or partial school closures in the last 18 months.
3. Children in countries with long school closures and low remote learning readiness, such as Angola, Congo, Madagascar, and Pakistan, were most affected, as they missed out on in-person instruction due to a lack of conditions necessary to support remote learning.
4. Among all education levels, the pre-primary level has the highest number of countries with below-average remote learning readiness. Many countries didn't have policies addressing remote learning for this level, putting many of the youngest children at risk of not learning during school closures.
5. In 23 of the 31 countries that scored one or two stars in the RLRI, children have high or extremely high exposure to climate and environmental hazards. This means that 196 million schoolchildren in these countries face risks of learning disruption that go beyond the current pandemic. These data emphasize the need to build resilient education systems that can equitably ensure learning continuity through remote channels at times when environmental factors substantially affect the ability to deliver in-person education.
6. Overall, countries with per capita gross national income (GNI) higher than US \$10,000 tend to have average or above-average remote learning readiness. However, many countries with relatively low GNI managed to have an above-average score, opening the possibility for international cooperation and the exchange of best practices.
7. Because the RLRI is measured at the national level, it is also critical to consider within-country disparities, especially due to inequalities among households. Even in countries with the highest readiness for remote learning (Argentina, Barbados, Jamaica, and the Philippines), children from the poorest households do not have access to assets necessary for remote learning, so they face higher risks of falling further behind in their education. Furthermore, available evidence at the country level suggests that even in the top-scoring countries, parents reported their children to learn less under the remote learning modalities.
8. It is important to understand that having adequate remote learning readiness is only the first step in ensuring learning continues during schooling disruptions. Ongoing efforts should be made to design effective remote learning curricula for all children and promote their actual use.





Introduction

The COVID-19 pandemic has impacted national education systems worldwide. The number of students affected by school closures peaked in April 2020 at more than 1.5 billion children around the world, representing about 90 per cent of total enrolled learners in 194 countries.

To mitigate the effects of school closures, governments started introducing remote learning policies based on a combination of broadcast media, online platforms, and paper-based material delivery. However, decisions regarding remote learning solutions were influenced by a country's

income, especially when it came to “differences in adoption of online learning platforms,” which highlights that “low- and middle-income countries are at a far more disadvantaged starting point for an effective transition to online learning platforms” (Global Education Monitoring Report: Inclusion and Education, p.58-59, 2020).

Moreover, existing evidence indicates that the disparities observed in access to the internet and information communication technologies (ICTs) at home due to the differences in socio-economic standing could widen already

severe learning inequities. Therefore, a significant share of schoolchildren worldwide could be left behind despite the existence of remote learning policies (Hereward et al., 2020; Dreesen et al., 2020). Available data highlight that about 30 per cent of schoolchildren worldwide cannot continue learning through remote channels, and approximately three out of four in this disadvantaged population come from rural areas and/or belong to the poorest strata in their countries (UNICEF, 2020).

Additional data suggest that for countries in fragile contexts, namely those included in the [UNICEF Humanitarian Action for Children \(HAC\) appeal](#), this number increases to almost 50 per cent, which highlights an urgent need to support learning continuity in humanitarian crisis settings. Furthermore, during the pandemic some children in low-income settings have remained without access to electricity, which cuts them off not only from learning opportunities but also from access to basic and essential services beyond education. For example, only 47 per cent of households in sub-Saharan Africa have access to electricity, with large disparities observed between rural and urban areas ([UNICEF, 2021](#)).

Since the COVID-19 pandemic was announced in March 2020, countries have responded differently to ensure continuity of learning through remote channels. As school closures are not unique to the COVID-19 outbreak and can take place due to natural or man-made disasters, conflicts, etc., strengthening the resilience of the education sector against negative shocks and learning loss is essential for human capital gains and inclusive and equitable education for all ([UNICEF, 2021](#)). A country-level assessment of educational resilience in relation to crises is essential to accelerate the efforts of the international community and national stakeholders in “building back better,” i.e., recovering from the learning losses caused by the disruption of in-person classroom during the COVID-19 pandemic.

One calendar year since the pandemic was announced, almost 215 million schoolchildren worldwide missed at least three quarters of the intended in-person instruction time, and 168 million missed almost an entire year, which has clear consequences in terms of severe learning loss (UNICEF, 2021).

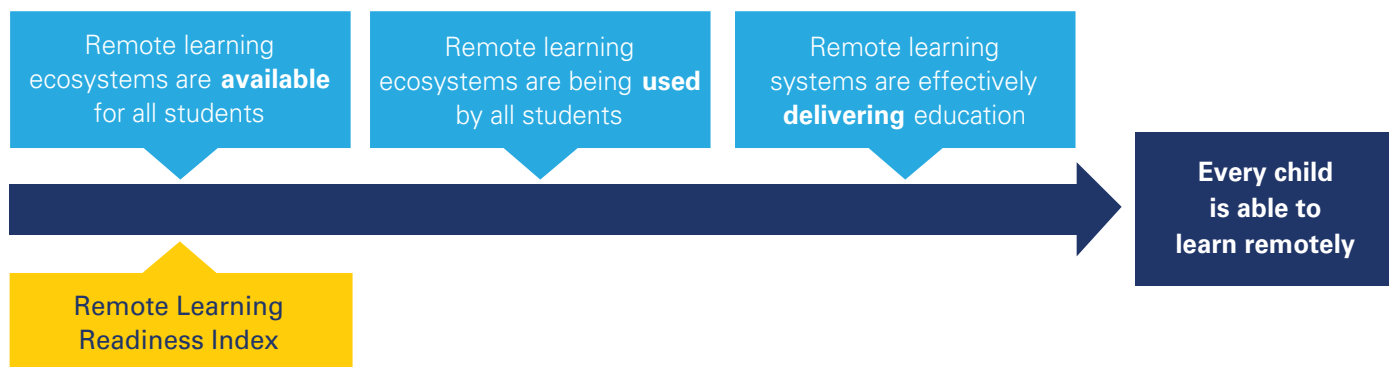
Investments in the remote learning readiness of education systems can play an important role in reaching out-of-school populations, refugees, or providing education for schoolchildren in remote rural areas, and in addition to ensuring children continue learning during the school closures they can also help children get back on track when schools reopen. Remote learning readiness also plays a key role in a joint mission launched by UNESCO, UNICEF, and the World Bank “[Mission: Recovering Education – 2021](#),” which aims to enable all schoolchildren to return back to school by the end of 2021 and provide all schoolchildren with the support to catch up on lost learning.

The purpose of this report is to introduce the Remote Learning Readiness Index (RLRI), a new composite indicator that aims to identify the weakest links in a country’s readiness for remote learning, thereby supporting targeted policymaking to improve equitable access to education. The index considers three domains that are important for enabling remote learning: household-level access to remote learning tools, country-level policy responses to COVID-19, and the preparedness of the education system to withstand disasters or other crises. The index is calculated at the national level, with disaggregation by education level, as well as by the three key domains mentioned above.

It is proposed that the RLRI could provide guidance for ministries of education or other relevant policy-making bodies in identifying critical areas and domains where additional attention and efforts need to be made to mitigate the negative consequences of the pandemic on learning, increase resilience, and improve preparedness for potential school closures in the future.

It is important to note that readiness for remote learning is a continuum. This index aims to capture the most foundational requirements of remote learning readiness and looks at the critical infrastructure and resources needed to achieve quality remote learning. As Figure 1 below shows, the RLRI provides insight into where countries stand with respect to the very first steps needed to ensure every child can learn when in-person schooling is interrupted.

Figure 1
What the Remote Learning Readiness Index measures



Methodology

The RLRI reports a country’s remote learning readiness using a scale of one to five stars, where higher values indicate better readiness. Each level of education from pre-primary to upper secondary school is assessed; in addition, the overall remote learning readiness of a country is calculated based on its performance across the three domains identified above¹, which indicate key aspects of resilience and capacity in ensuring the continuity of learning through remote channels. These domains are household-level access factors, the policy response capacity of the government, and education system-level preparedness for emergencies.

This analysis uses three data sources to construct the index. Household survey data, including Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS), are used to calculate household level characteristics for remote learning. The first round of the UNESCO-UNICEF-World Bank Survey on National Education Responses to COVID-19 School Closures is used as the source for national policy responses (in subsequent years, UNICEF will conduct an annual survey to collect data). Finally, UNICEF’s Strategic Monitoring Questions (SMQ), a system-strengthening framework that is reported by UNICEF’s country offices, form the data source for emergency preparedness.

The **household level factors** domain seeks to identify availability in the home of key technological assets needed to access remote learning, such as a radio, television, computer,

mobile phones, and access to the internet, as well as the extent of support available at the household level. A mother’s level of education (completed upper secondary education or higher) serves as a proxy for potential parental support, as existing evidence points to a strong relationship between a mother’s education and schooling outcomes².

Policy response capacity is measured by the number of policies adopted by a country to deploy remote learning and support teachers during the COVID-19 pandemic. While widespread full school closures are becoming rare 18 months after the pandemic was announced, country responses to crises like COVID-19 can be used as a proxy to estimate how a country will react to closures due to natural calamities or other unexpected events. This domain helps shed light on the ability of governments to respond to schooling interruptions and to deploy remote learning in the short and medium term.

Finally, **emergency preparedness** of the education system assesses the degree to which a country’s education sector implements risk assessment, has risk reduction strategies in place, and allocates human and financial resources for these activities. This domain focuses on the overall resilience of the education sector in relation to emergencies. In general, governments can improve education sector resilience over the medium to long term. Figure 2 illustrates the three sources and 13 variables used in the index.

Figure 2
RLRI domains and variables

	Households	Policy Response Capacity	System-Level Emergency Preparedness
Variables	<p>The share of schoolchildren with home access to:</p> <ul style="list-style-type: none"> Radio Television A computer The internet At least one mobile phone owned by a family member <p>As well as</p> <ul style="list-style-type: none"> The share of school children whose mothers completed upper secondary education or higher 	<p>Provision, through ministry of education policies, of remote learning opportunities via:</p> <ul style="list-style-type: none"> Radio Television Online Platforms <p>As well as</p> <ul style="list-style-type: none"> Training for teachers to use remote learning tools 	<ul style="list-style-type: none"> Risk assessment for education sector is implemented. Risk reduction for education sector is in place. Human and financial resources for implementing risk reduction and assessment strategies are allocated
Source	Multiple Indicator Cluster Surveys 2010-2020), Demographic and Health Surveys (2010-2020)	The first round of the UNESCO-UNICEF-WB survey (to be replaced by ad hoc annual surveys from 2022 onward)	UNICEF Strategic Monitoring Questions (2020)

1. Note that the aggregate score for a country was only calculated if all three domains were present.

2. Zhao, M. & Glewwe, P. (2010). What determines basic school attainment in developing countries? Evidence from rural China, Economics of Education Review, Volume 29, Issue 3, pages 451-460.

The data analysis flow included two stages of ranking. The first refers to the domain-level analysis and was comprised of two steps. First, based on the input variables, an aggregate value for each domain was calculated. As three domains have different underlying statistical distributions of the input variables, different ways to aggregate input variables were adopted. Arithmetic mean was used for the household characteristics as they all vary on a continuous scale from 0 to 100. Policy response capacity was aggregated by counting the number of policies deployed by governments to enable remote learning in response to school closures, with scores varying from 0 (no policy) to 4 (maximum number of policies). Finally, education system emergency preparedness was aggregated by taking the median value of ordinal ranks in the interval between 1-4. In the next step of the first-stage ranking, each

aggregated domain was evaluated against four theoretical benchmarks, such as “low,” “medium-low,” “medium-high,” and “high.” These benchmarks were produced in a way that divides the distribution of each aggregated score into four bins of relatively equal size.

The second-stage ranking started with identification of the two weakest domains in a country’s performance. These two domains then were chosen to produce the final index, which ranges between one and five stars, with five being the best. Table 1 presents how the 16 possible combinations of the two weakest domains were classified into the final score. To facilitate understanding of the index, each level is color-coded as shown in the table.

Table 1
Conversion of the two weakest domains into the final rank

		Lowest Domain			
		High	Medium-High	Medium-Low	Low
2nd Lowest Domain	High	5 Stars	5 Stars	4 Stars	3 Stars
	Medium-High	5 Stars	4 Stars	3 Stars	2 Stars
	Medium-Low	4 Stars	3 Stars	2 Stars	1 Stars
	Low	3 Stars	2 Stars	1 Stars	1 Stars

It is important to note the innovativeness of the adopted approach, which assesses sector-level remote learning readiness in each country by focusing on the two domains with the lowest ratings, rather than averaging across all three domains. The role of household factors, policy response capacity, and sector preparedness in building resilient remote learning systems is complementary, so the design of the index reflect this nature of complementarity. In the same way that the overall strength of a chain is determined by the weakest link, the domains with the weakest scores are the constraining factors in ensuring a country’s readiness for remote learning. For example, a well-designed remote learning policy cannot achieve its full impact if many learners do not have access to remote learning tools at home. In this context, focusing on the

single weakest domain could result in a loss of information on how resilient the country is toward school closures. On the other hand, focusing on all three domains produces 64 outcome cases, which complicates production of the final score in a simplistic manner. Furthermore, taking information from the best domain does not contribute to identification of the weakest links. The complementary nature of three domains places the focus on the weaker parts of the system. When the overall ranking is based on the two weakest domains, the results are more sensitive to capturing a country’s improvement over time. The index can identify a country’s weakest areas in providing access to remote learning, and thereby support the implementation and monitoring of appropriate policy.

BOX 1**How to interpret the star rankings**

The RLRI evaluates each country's performance across three domains, and then assigns a star ranking based on the country's performance in the two domains in which it is weakest:

1 STAR:

A country receives one star if it demonstrates poor performance in its two weakest domains. A one-star rating highlights the urgent need for a country to invest in developing a remote learning system, as the current system is only available to a limited number of schoolchildren, making learning continuity during school closures very difficult.

2 STARS:

A country receives two stars if it demonstrates lowest or medium-low performance in its two weakest domains. A two-star rating highlights that while some students can benefit from remote learning, it remains unavailable for the majority of students in the country due to a combination of factors.

3 STARS:

A country receives three stars if it demonstrates average performance in its two weakest domains. A three-star rating signifies that the country's remote learning systems can be regarded as relatively resilient, although serious concerns still remain about the

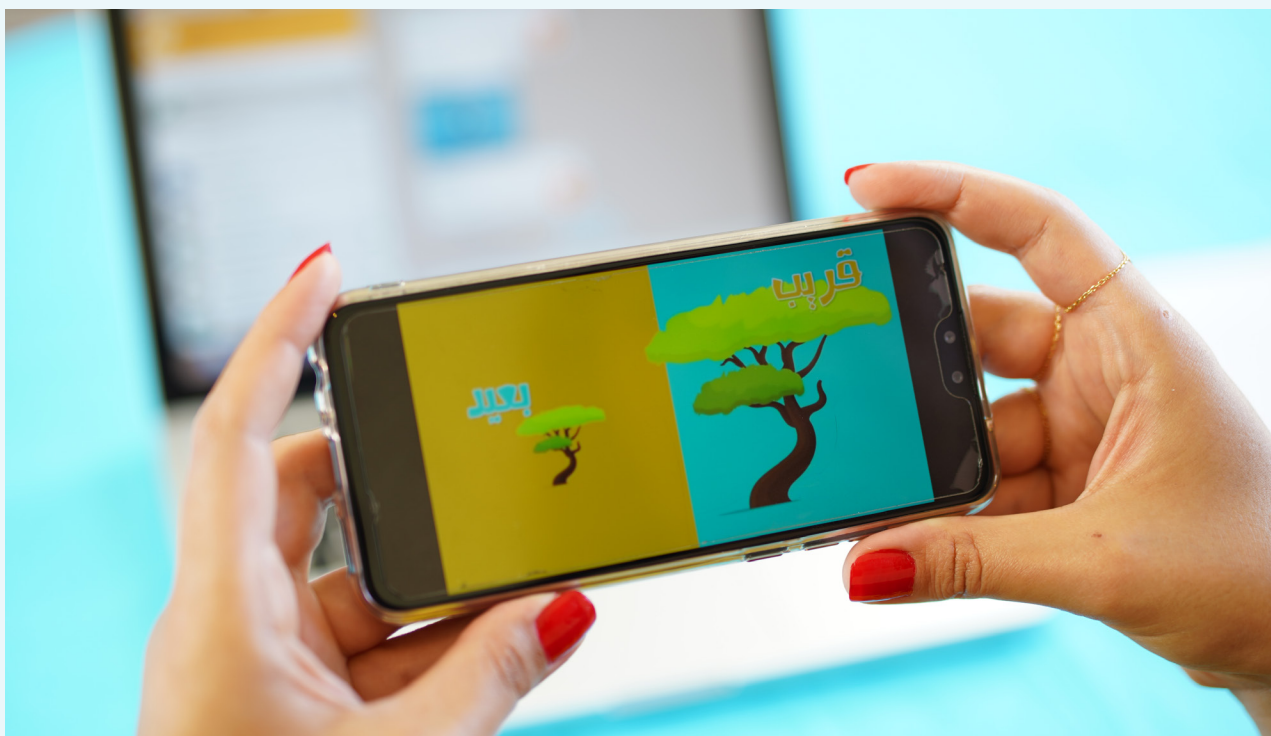
potential for learning loss and the extent to which learning can continue in case of disrupted in-person instruction.

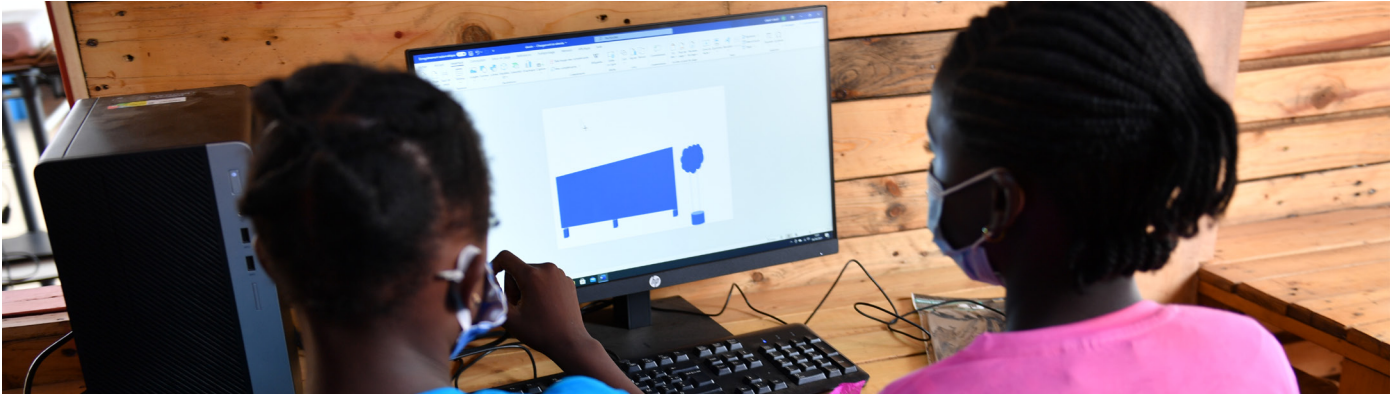
4 STARS:

A country receives four stars if it demonstrates medium-high performance in its two weakest domains. A four-star rating identifies countries with well-established and resilient systems of remote learning, where most students can continue to learn if schools are closed, although there are areas where improvement is still needed.

5 STARS:

A country receives five stars if it demonstrates high performance across all domains. A five-star rating identifies countries with the best readiness for remote learning and the highest resilience to crises that lead to disruption of in-person instruction, although other factors beyond the assessment (such as actual learning or within-country inequalities) should guide further policy discussions to strengthen the overall ecosystem of remote learning in the country.



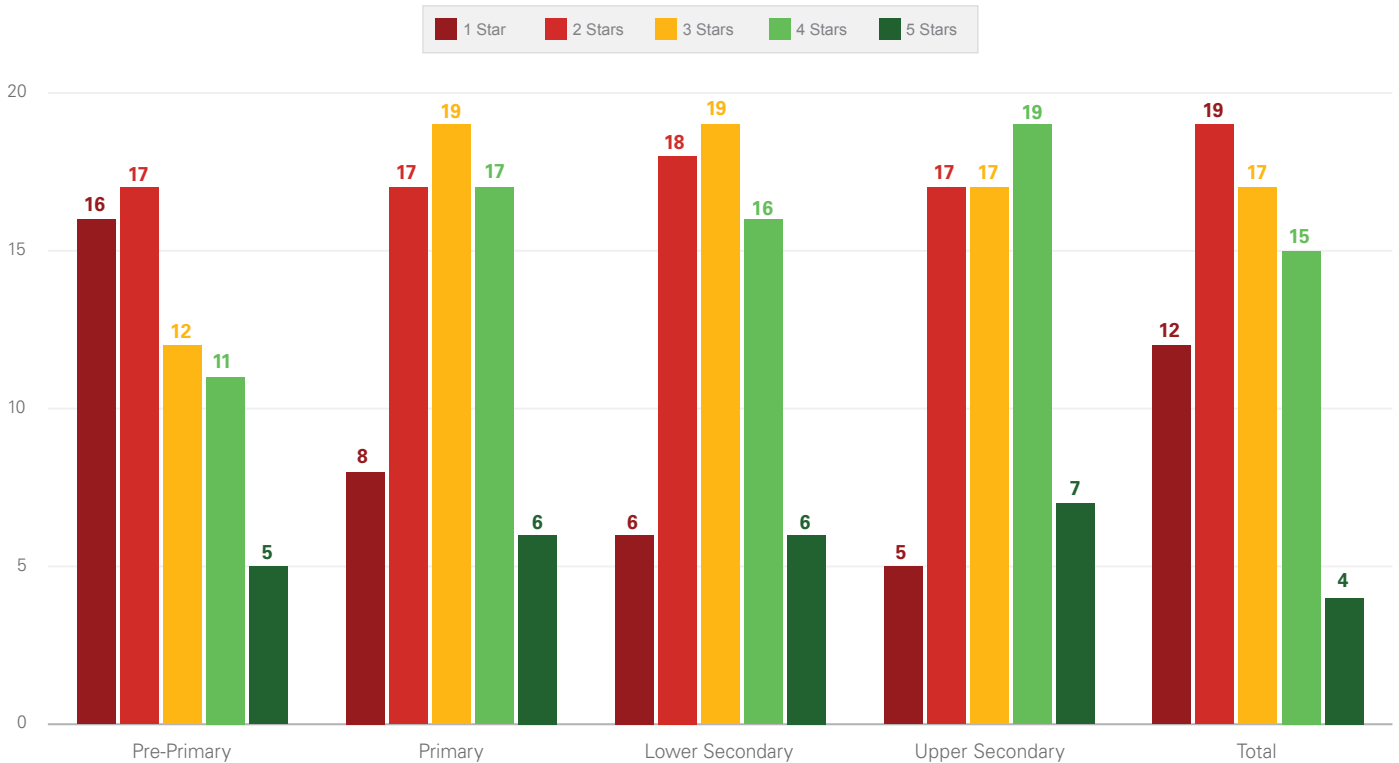


Global and regional overview

The index covers 67 countries (predominantly low and middle-income ones), presented in Figure 3 by their remote learning readiness at each education level as well as globally. When looking at the RLRI for all education levels combined, nearly half of the countries (31 out of 67) have below-average remote learning readiness (i.e., one or two stars), while 19 countries have above-average remote learning readiness (i.e., four or five stars).

Across different education levels, it is evident that the higher the level of education, the more countries achieve above-average remote learning readiness. This trend in remote learning readiness reveals that pre-primary education is often excluded from remote learning responses. Across all education levels, pre-primary has the highest number of countries with one star and the lowest number of countries with four or five stars, indicating that remote learning readiness is particularly weak at this level.

Figure 3
RLRI by level of education (global overview)³



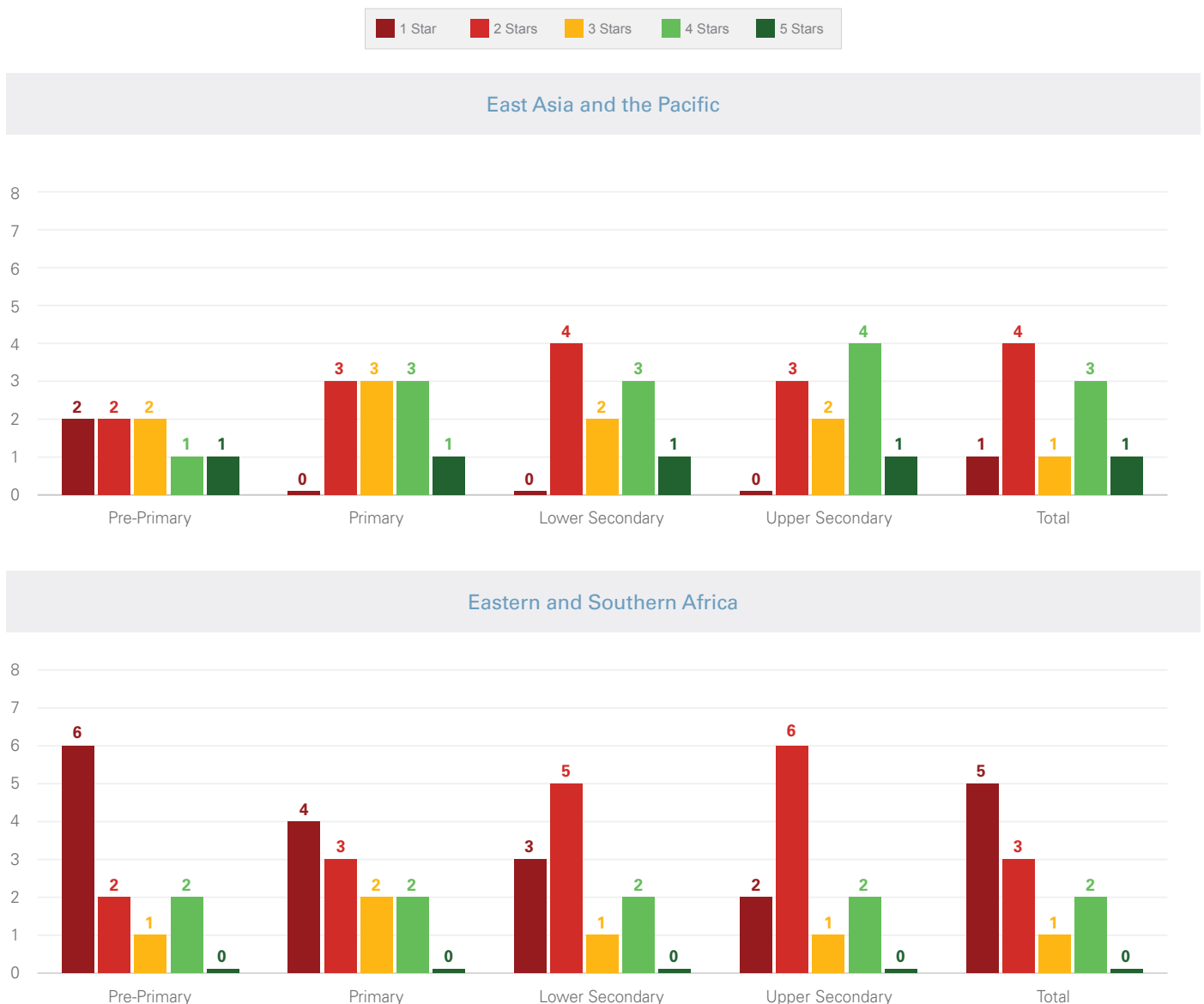
Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), and UNICEF Strategic Monitoring Questions (2020).

3. For some levels of education, the number of countries does not add up to 67 as the data provided by the household survey in question was either insufficient or non-existent for schoolchildren studying at this level of education.

Figure 4 further disaggregates the information by UNICEF region,⁴ revealing substantial regional disparities in the number of countries scoring between one and five stars. In some regions, such as Eastern Europe and Central Asia, most of the countries with available data had fairly good remote learning readiness – all countries in this region had average or above-average scores (i.e., three stars or more). Countries in other regions, such as Eastern and Southern Africa and West and Central Africa, performed less well, with the majority of

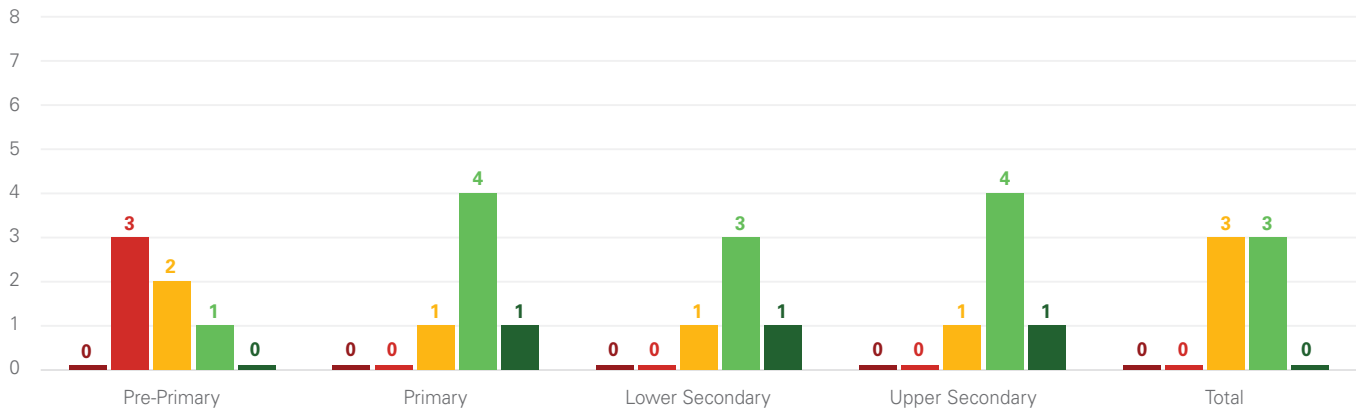
countries with available data scoring below average across almost all levels of education (i.e., one or two stars). In South Asia, for all levels of education, most countries also had average or below-average remote learning readiness, whereas remote learning readiness was more mixed in Middle East and North African countries. In Latin America and the Caribbean and Eastern Europe and Central Asia, countries tended to have average or above-average remote learning readiness.

Figure 4
RLRI by region and level of education

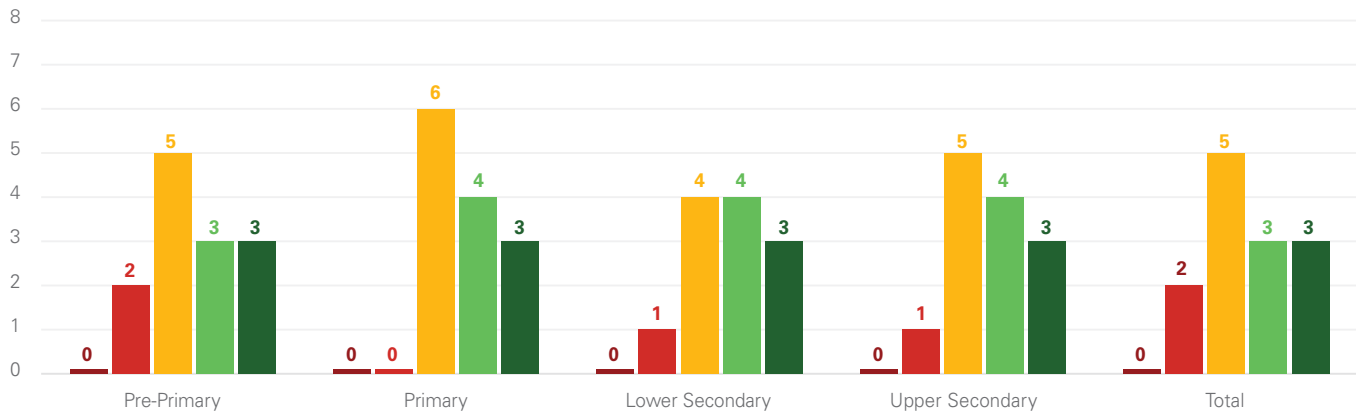


4. The numbers in Figure 4 should not be interpreted as the aggregated regional estimates as they do not cover a sufficient number of countries.

Eastern Europe and Central Asia



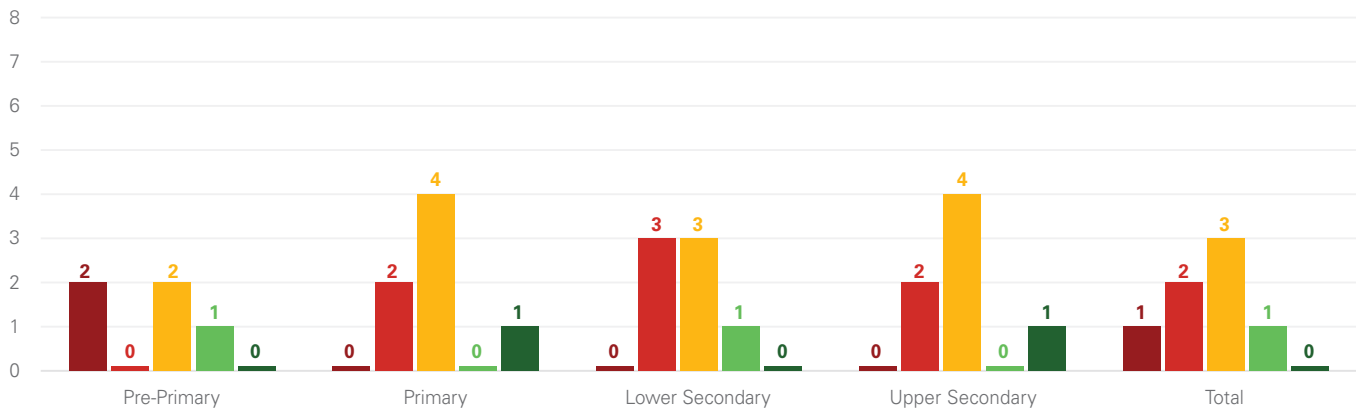
Latin America and the Caribbean



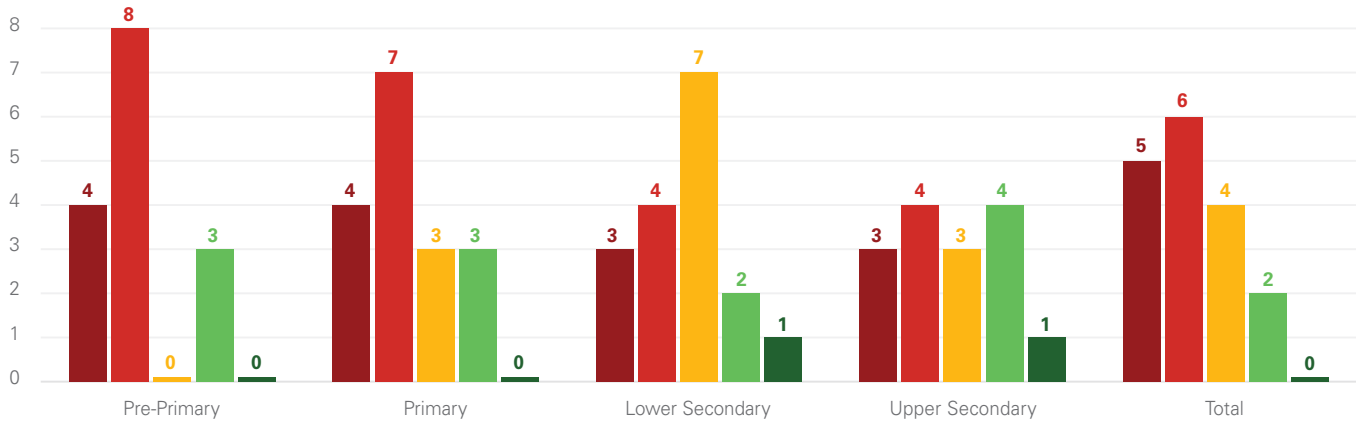
Middle East and North Africa



South Asia



West and Central Africa



Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), and UNICEF Strategic Monitoring Questions (2020).



BOX 2**The RLRI and Global Partnership for Education partner countries**

In 2018, UNICEF launched a new initiative, called MICS-Education Analysis for Global Learning and Equity (MICS-EAGLE)⁵ to help countries harness their education data for use in evidence-based policymaking and advocacy so that all children can realize their right to learn. As part of the Knowledge Innovation Exchange (KIX), MICS-EAGLE provides equity analyses for Global Partnership for Education (GPE) partner countries that have implemented the sixth round of the Multiple Indicator Cluster Survey (MICS6).

GPE partner countries are committed to quality education for all, with a special focus on increasing access to quality education for the most marginalized children. It is important to understand the remote learning readiness of GPE partner countries so they can further help ensure all children receive education, either in person or remotely. Table 2 below presents RLRI results for GPE partner countries with available data.

Table 2
Overall RLRI for GPE countries

Score	Countries	No. of Countries
5 Stars		0
4 Stars	Albania, Cambodia, Gambia, Guyana, Honduras, Kenya, Maldives, Nigeria, Viet Nam	9
3 Stars	Bangladesh, Bhutan, Burkina Faso, Guinea, Kyrgyzstan, Myanmar, Saint Lucia, Senegal, Sierra Leone, Zimbabwe	10
2 Stars	Afghanistan, Chad, Comoros, Democratic Republic of the Congo, Ghana, Lao People's Democratic Republic, Mali, Mauritania, Nepal, Papua New Guinea, Sao Tome and Principe, Sudan, Timor-Leste, Tonga, United Republic of Tanzania, Yemen	16
1 Star	Benin, Burundi, Cote d'Ivoire, Congo, Ethiopia, Kiribati, Madagascar, Malawi, Niger, Pakistan, Togo	11

Of the 67 countries included in the RLRI analysis, 46 are GPE partner countries. Available data indicates that only a limited number have the basic ecosystem required to deliver education remotely. No GPE country received a score of five stars, but nine GPE countries received four stars, indicating above-average remote learning readiness. Ten GPE countries have average remote learning readiness, while the remaining 29

GPE countries have below-average remote learning readiness (one or two stars). This indicates that many children in these countries may not have been able to continue learning during school closures caused by the COVID-19 pandemic. Given that localized school closures are likely to increase around the world, it is imperative for all countries to improve remote learning readiness.

5. MICS-EAGLE website: <https://data.unicef.org/resources/mics-education-analysis-for-global-learning-and-equity/>

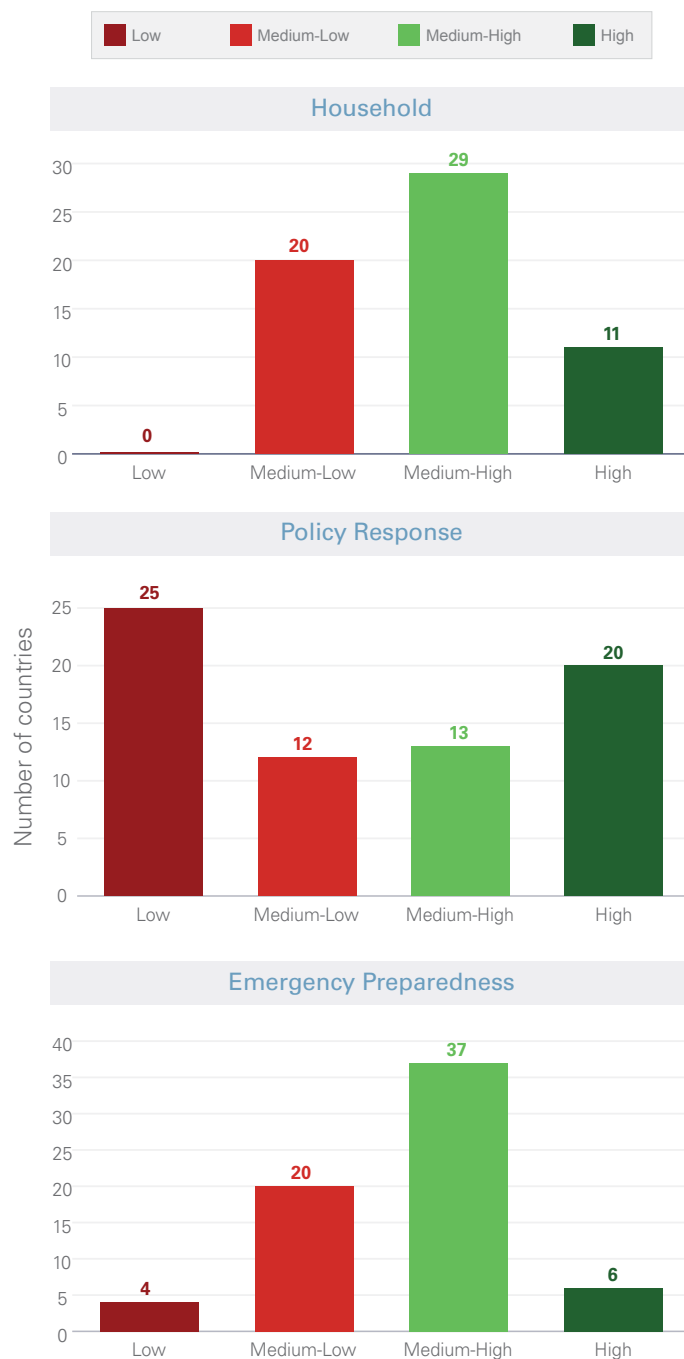
Remote learning readiness for pre-primary education

By pinpointing a country's weakest domains in the provision of remote learning, the RLRI can identify where support is needed. The previous section shows that across all education levels, pre-primary education has the fewest countries with average or above-average remote learning readiness. At the pre-primary level, 31 countries had a below-average RLRI score (one or two stars), compared to 22 to 25 countries in primary, lower secondary and upper secondary. Figure 5 shows that at the pre-primary education level, policy response is the weakest of the three domains, with 37 countries having either "low" or "medium-low" scores in this area. Pre-primary education is critical, and a lack of support at this level incurs great costs for children as well as society at large. A recent UNICEF report on remote learning for pre-primary education highlights that a lack of support at this important stage can hinder children's learning, early childhood development, and labor-market outcomes.⁶

The analysis clearly shows that while emergency preparedness and household level factors at the pre-primary level are similar to those for other levels of education, pre-primary level education is often excluded when remote learning policies are made. Another UNICEF study points out that "the youngest learners in low-and middle-income countries were less likely to access remote learning opportunities compared to primary and secondary school students," as by "mid-2021, over 60 countries had not fully reopened their pre-primary schools" (UNICEF, p.1, 2021)⁷. As such, reopening pre-primary schools alone is not enough, and mitigation measures need to be taken to facilitate recovery from learning loss. The study points out that without remedial policies, closures of pre-primary schools in 2020 will result in a US \$1.6 trillion loss for the current generation of pre-primary school students. Therefore, well-designed remote learning policies at the pre-primary level can not only substantially improve many countries' overall RLRI scores but are necessary for the future of the youngest learners.



Figure 5
RLRI by Domain for Pre-Primary Education



Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), and UNICEF Strategic Monitoring Questions (2020).

6. UNICEF (2020). COVID-19: Trends, Promising Practices and Gaps in Remote Learning for Pre-Primary Education. <https://www.unicef-irc.org/publications/1167-covid-19-trends-promising-practices-and-gaps-in-remote-learning-for-pre-primary-education.html>

7. UNICEF (2021). It's Not Too Late to Act on Early Learning: Understanding and recovering from the impact of pre-primary education closures during COVID-19. <https://www.unicef-irc.org/publications/1213-its-not-too-late-to-act-on-early-learning.html>

BOX 3**How broadcast-based remote learning is helping pre-primary children learn in sub-Saharan Africa: Educational TV with Ubongo's Akili and Me**

Ubongo began airing in Tanzania in 2013 as an educational cartoon television show with live SMS-based participation by audiences. In 2016, it launched Akili and Me, programming aimed at children aged 3-6 years that covers numeracy, pre-literacy, English as a second language, art, health and socio-emotional skills. By 2019, Akili and Me was available on free-to-air television channels in 10 countries and was translated into six additional languages with an estimated reach of more than 12 million viewers. Additionally, Akili Toolkits programming allows parents and caregivers to access content using a range of platforms, including online, interactive voice response and WhatsApp groups. (Ubongo Annual Report 2019).

An evaluation of Akili and Me's Kiswahilli content in Tanzania found that children aged 4-6 years who viewed the show daily outperformed a control group in counting, English language, number recognition, shape knowledge and drawing skills (Borzekowski, D, 2017). A study in Rwanda with first-grade primary students (7 years old), evaluating content adapted into Kinyarwanda, found

comparable results (Borzekowski et al, 2019). Following school closures across Africa due to COVID-19, Ubongo developed new content on handwashing and other related topics and expanded its reach on free-to-air television and radio channels across the continent. Between March and May 2020, Ubongo saw its online viewership more than double in Kenya and Uganda and increase by more than 70 per cent in Rwanda and Tanzania. Weekly users of the toolkits grew more than 1,000 per cent over the same period. It has also developed WhatsApp-based chatbots in English, Kiswahili, and Hausa to allow parents to find and receive content and learning support (Ubongo, 28 May 2020). In a survey of 207 Tanzanian viewers in July 2020, 95 per cent of parents reported that Ubongo's content was very important for their child's education and 86 per cent believed its importance had increased in the previous two months, with most parents who viewed Akili and Me valuing the increase in knowledge of numbers and reading they saw in their children (60dB, July 2020).

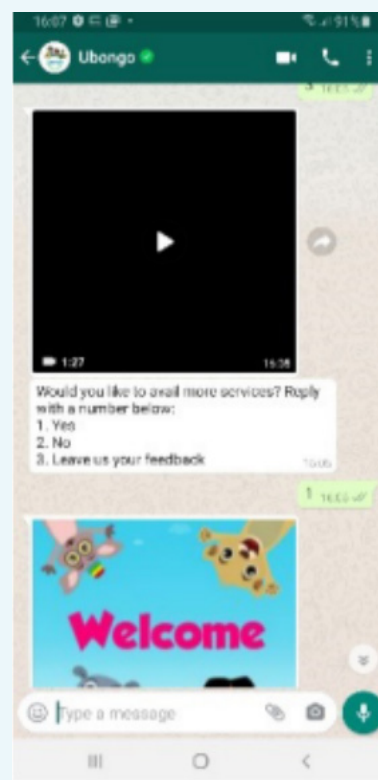
Figure 6
Snapshots of content created by Ubongo



Akili and me video content on counting. Retrieved from <https://www.youtube.com/watch?v=ppkzPJ1AcRk&t=51s>. © Ubongo. Screenshot by author.



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Readiness for remote learning and environmental risks

Resilient education systems are key in providing education in emergency settings. Global school closures in response to the COVID-19 pandemic brought about the most massive disruption of education in history, but schools are often closed due to regional or local events resulting from climate change. Expanding the capacity of education systems to ensure continuity of learning through remote channels during extreme weather events like heatwaves, droughts or severe storms

is critical to ensuring that children in the most vulnerable settings, i.e., those with the greatest exposure to climate risks, will not fall behind in their education.

A [UNICEF report](#)⁸ published in August 2021 presented the Children's Climate Risk Index (CCRI), which draws on global evidence to provide "the first comprehensive view of children's exposure and vulnerability to the impacts of climate change."

8. UNICEF, 2021: The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index. <https://data.unicef.org/resources/childrens-climate-risk-index-report/>

The new composite index draws on geographical data to assess children’s risk from climate and environmental hazards, shocks, and stresses, as well as their vulnerability to those events, based on their access to essential services.

The CCRI ranks countries on a scale from very low to extremely high exposure. As the report rightly mentions, children are more physically and psychologically vulnerable to climate and environmental shocks than adults. Furthermore, many children live in the areas that experience multiple, overlapping environmental risks that exacerbate one another and sharpen existing inequalities. Thus, as we consider the importance of increasing system-level readiness for remote learning during the current global health crisis, we must also

factor in the impact of climate risks on children’s ability to receive an education.

Figure 7 illustrates that there is a clear inverse relationship between the RLRI and the CCRI – the 23 countries with low RLRI scores of one or two stars also have high or extremely high risk based on the CCRI. This means that the 196 million schoolchildren in these countries are vulnerable to environmental risks and are not supported by a resilient education system that is equipped to provide remote learning opportunities, threatening their ability to acquire essential knowledge and skills. These findings emphasize the vital need for resilient education systems, above and beyond the COVID-19 pandemic.

Figure 7
Relationship between a country’s remote learning readiness and children’s exposure to climate risks



Source: Authors’ calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), and UNICEF Strategic Monitoring Questions (2020).

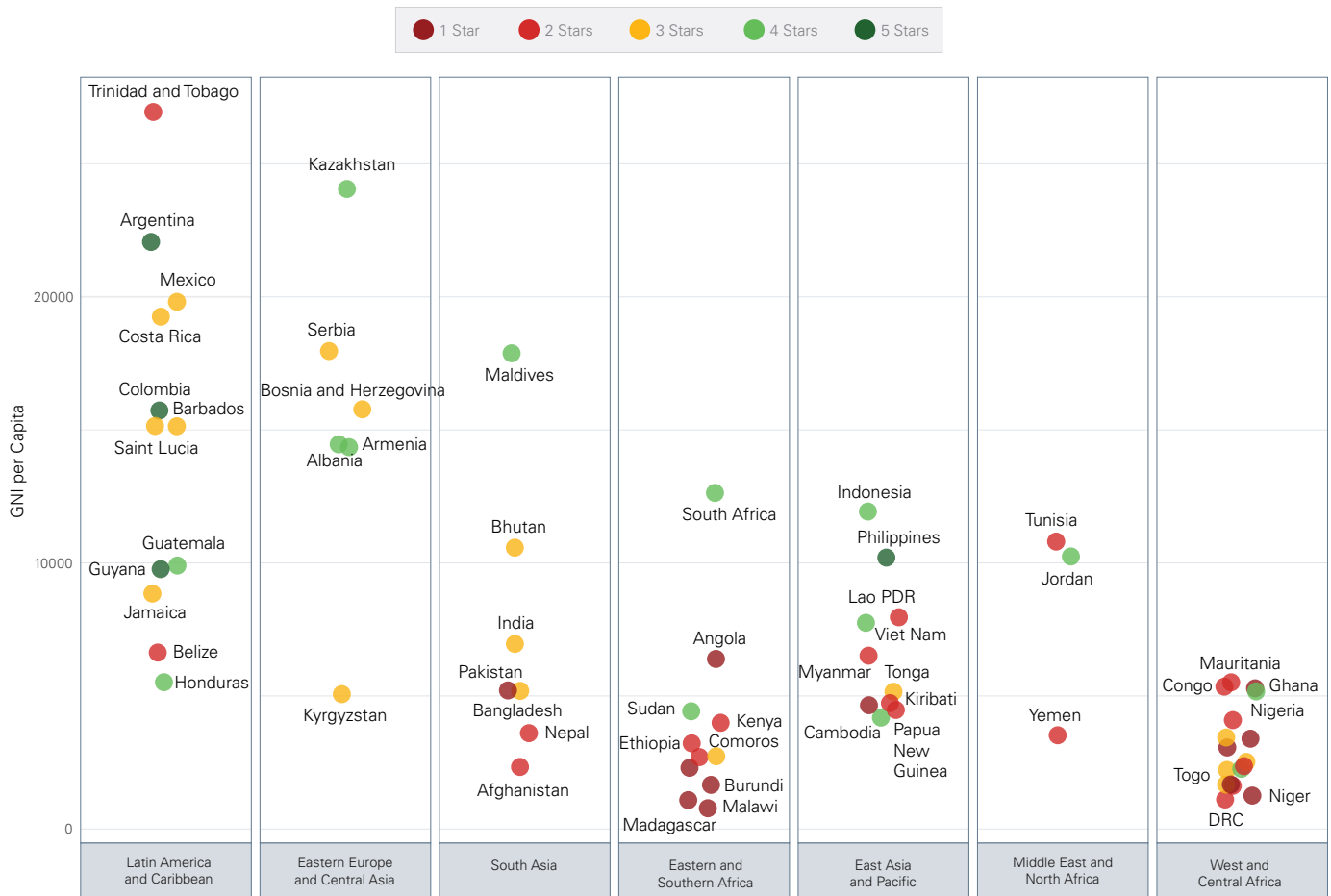
Economic development and readiness for remote learning

Global estimates can mask critical differences in remote learning readiness by income group. This section further unpacks the relationship between economic development and the RLRI. In Figure 8, each dot represents a country and is color-coded based on the country's overall RLRI score across all levels of education. These dots are plotted by GNI per capita and by UNICEF region to examine the general pattern. In general, countries with GNI per capita above US \$10,000 tend to have average or above-average remote learning readiness. Nonetheless, there are exceptions to this, and many countries have a relatively high GNI but a low RLRI score, or vice versa.

In South Asia and Eastern and Southern Africa, there is a clear pattern between GNI per capita and remote learning readiness, with remote learning readiness improving for richer countries in these regions. This pattern also holds true for East Asia and the Pacific countries, with Cambodia as an exception: even though its GNI is low compared to other countries in the region, it still has an above-average RLRI score.

This association between GNI per capita and RLRI score is less clear in other regions, as countries with similar RLRI scores can have large differences in GNI per capita. In the Latin American and Caribbean region, for example, Trinidad and Tobago and Belize both have below-average remote learning readiness, but the former has the highest GNI per capita among assessed countries in the region, whereas the latter has one of the lowest. The same holds true for the Middle East and North Africa region, with two countries – Yemen and Tunisia – having substantial differences in GNI per capita but similar RLRI scores. The reverse is also true – countries with very similar GNI per capita can have different levels of remote learning readiness. This is particularly true in the East Asia and the Pacific region, where many countries clustering at a GNI per capita of US \$5,000 have wide-ranging RLRI scores. This fuzzy relationship between GNI per capita and RLRI suggests two things: 1) it's possible for low-income countries to provide the conditions necessary for resilient remote learning, and 2) low-income countries with high RLRI scores may be able to share best practices with other low-income countries that have lower RLRI scores.

Figure 8
RLRI by GNI per capita



Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), and UNICEF Strategic Monitoring Questions (2020).

Remote learning readiness and duration of school closures

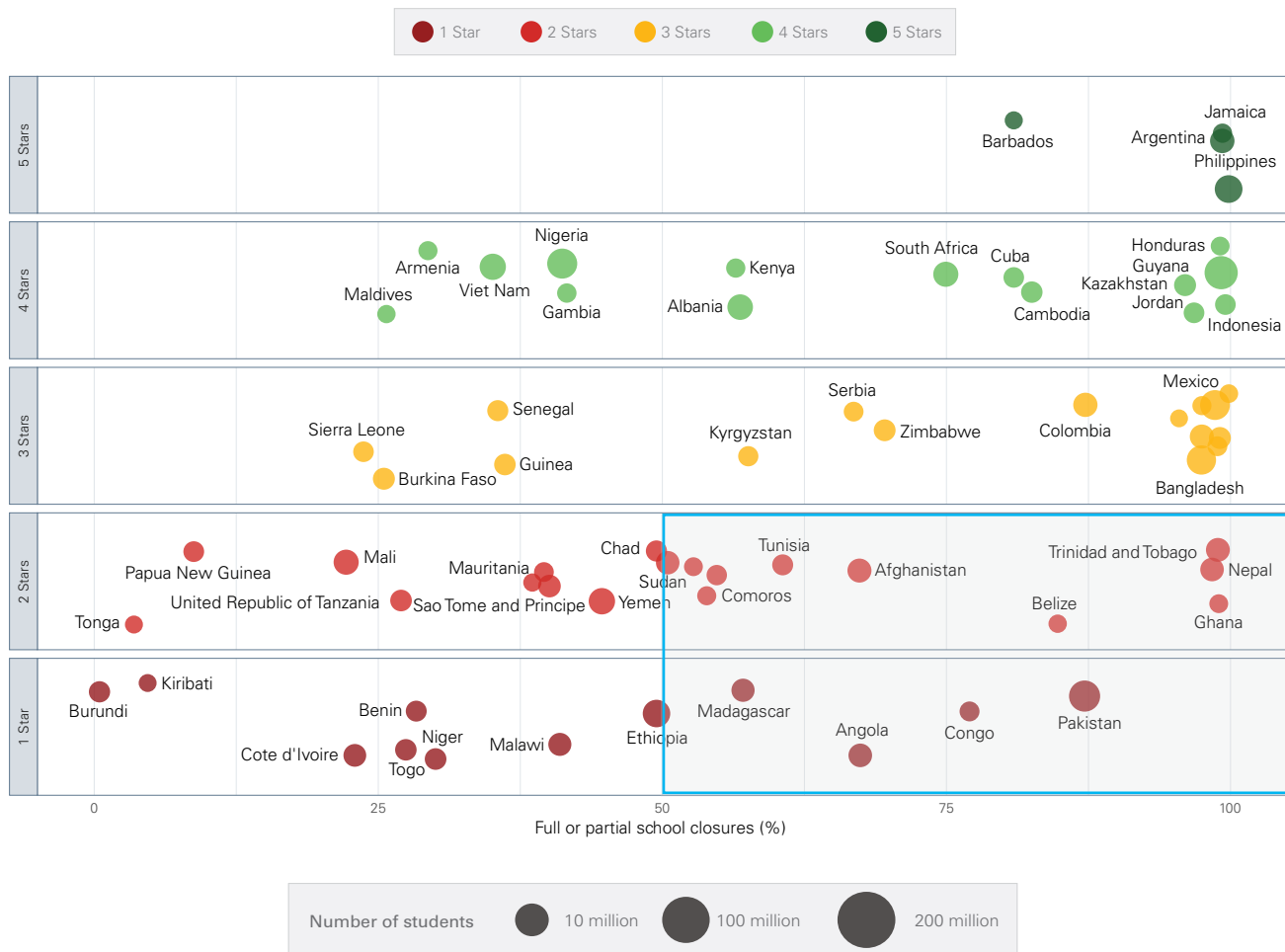
The COVID-19 pandemic caused the largest worldwide schooling disruption ever seen and made remote learning the only option while schools were closed. Even though many countries have reopened their schools, remote learning still plays an important role in filling the learning gap caused by schooling disruptions. Countries with prolonged school closures and low remote learning readiness are likely to experience significant challenges getting children back on track. Therefore, this section explores the relationship between the RLRI and the duration of school closures, aiming to identify the countries where support is most needed.

In Figure 8, each country is plotted by its overall RLRI score (as shown on the y-axis) and by its percentage of instruction time disrupted (as shown on the x-axis). The data on school closures presented in this section refers to the period from March 2020, when the WHO formally declared the pandemic,

to September 2021. Consequently, the analysis below illustrates the potential relationship between remote learning readiness and the percentage of days schools were closed or partially closed in the first year and half of the pandemic.

Among countries with extensive schooling disruptions, there is substantial variation in remote learning readiness. Countries at the upper right corner experienced much longer school closures, but they also demonstrated high remote learning readiness. As a result, the negative consequences of school closures were ameliorated to some degree in those countries. However, for countries at the bottom right corner (inside the blue box), urgent action is needed to remedy the loss in instruction time, as these countries both experienced prolonged schooling disruptions and were poorly prepared for remote learning.

Figure 9
RLRI scores and the duration of full or partial school closures in the period between March 2020 and September 2021



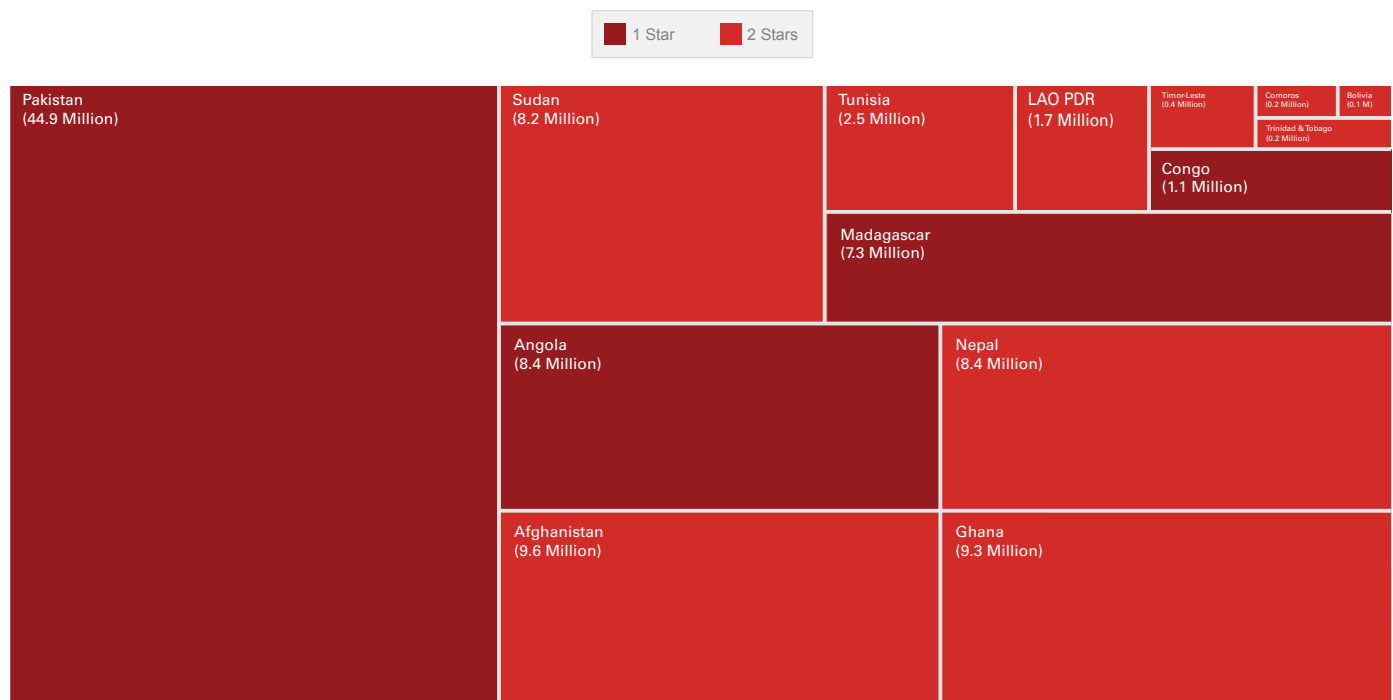
Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), UNICEF Strategic Monitoring Questions (2020), and UNESCO Global monitoring of school closures.

One-star countries: Where is improvement most urgently needed?

Countries with a one-star rating face significant challenges in providing continuous education to children while also preventing the spread of COVID-19. The combination of ongoing extended school closures and low readiness for remote learning means children in these countries are being excluded from learning opportunities they used to have. If this learning gap remains unfilled, it is likely to make returning to school very hard for many children. When schools reopen, these children are at risk of lagging behind and repeating a grade, making them more likely to drop out early – at great cost to them and society. Progress made by the global community in reducing the number of out-of-school children can easily be undone. Therefore, there is an urgent need to invest in remote learning systems in these countries in preparation for future crises.

Figure 10 presents countries that received scores of one or two stars where schools were fully or partially closed for at least 50 per cent of instruction time between March 2020 – September 2021. The relative area for each country reflects the number of students enrolled from pre-primary to upper secondary education. As can be seen, Angola, Congo, Madagascar, and Pakistan are one-star countries that were heavily affected by full or partial school closures. Interestingly, there was no discernable pattern in the two domains that were weakest for each of these countries – all three possible combinations were observed.

Figure 10
Duration of school closures between March 2020 – September 2021 in countries with RLRI scores of one or two stars



Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020), Demographic and Health Surveys (2010-2020), UNICEF Strategic Monitoring Questions (2020), and UNESCO Global monitoring of school closures.

There are a few important nuances that should be parsed out here. Changes to a country's policy response to school closures are the most effective way to produce short-term improvements in learning that will be reflected in a country's RLRI score.⁹ That said, even a well-designed remote learning policy and resilient education system cannot reach children if their households don't have the necessary resources to support and enable learning interventions to support families

such as cash transfers or rendering of the ICT equipment could be put in place by the governments to ensure access to remote learning for the most vulnerable, such as children from the poorest families or those who reside in remote rural areas. And while essential to improving the resiliency of education systems, infrastructure changes can be very expensive. For example, fewer than 50 per cent of households in the four countries listed above have access to electricity.¹⁰

9. Note that the data used to calculate the policy response domain were collected from ministries of education through the joint UNESCO-UNICEF-World Bank survey in Spring-Summer 2020, at the onset of pandemic. As such, governments may have implemented additional actions to support remote learning in these countries, but due to the timing of the survey these steps were not captured.
10. The arithmetic mean was calculated based on values from World Bank Global Electrification Database: <https://data.worldbank.org/indicator/EG.ELC.ACCTS.ZS>



In 2020, UNICEF's Liberia Country Office (LCO) introduced a real-time monitoring tool to provide weekly updates on how students, parents, and their communities are dealing with the COVID-19 pandemic and gather valuable information about the impact of the pandemic on children's everyday learning. Information received from parents and school heads in 30 schools across the county revealed some of the challenges involved with remote learning across the nation:

Lack of participation and understanding of the digital learning process

All respondents expressed frustration with the digital learning mode, saying that it did not help children. They reported that the remote learning program was introduced quickly, and some children could not follow while others did not have access at all.

Reduced attendance

All the head teachers report reduced attendance. At least 10 parents from each of the 30 schools were reported to have withdrawn their children from school and never brought them back. Some sent their children away to stay with relatives where they believed the

children would be better protected. There were also children who did not attend every day, and some parents indicated that they preferred to go to the school on a weekly basis to collect homework for the children instead of participating in remote learning.

Loss of learning

Many parents reported that their children did not learn anything while the schools were closed. They said the children were trying to learn but had little guidance. In addition, teachers often grappled with the new pedagogical approach and did not have the capacity to teach much as they had taught previously.

Source: UNICEF Liberia Country Office



Five-star countries: Achieving a high RLRI score is merely a starting point to ensure learning

Argentina, Barbados, Jamaica, and the Philippines all received five stars, the highest score in the RLRI. As shown in Table 3, all these countries had a strong policy response for remote learning for all or almost all education levels, and organized training in remote learning for teachers. Efficient policy responses in these countries were supported by high emergency preparedness as well as the existence of household factors that support remote learning, emphasizing the complementary roles played by all three domains.

However, there are some important caveats in interpreting the Remote Learning Readiness Index. First, since the RLRI is calculated at the national level, important equity issues can be overlooked unless further investigations are made. Although the index does not provide disaggregation by wealth, unpacking the household domain can shed some light on inequalities observed in the possession of the assets needed for a child to learn remotely.

Table 3
Overall RLRI results for five-star countries, by domain

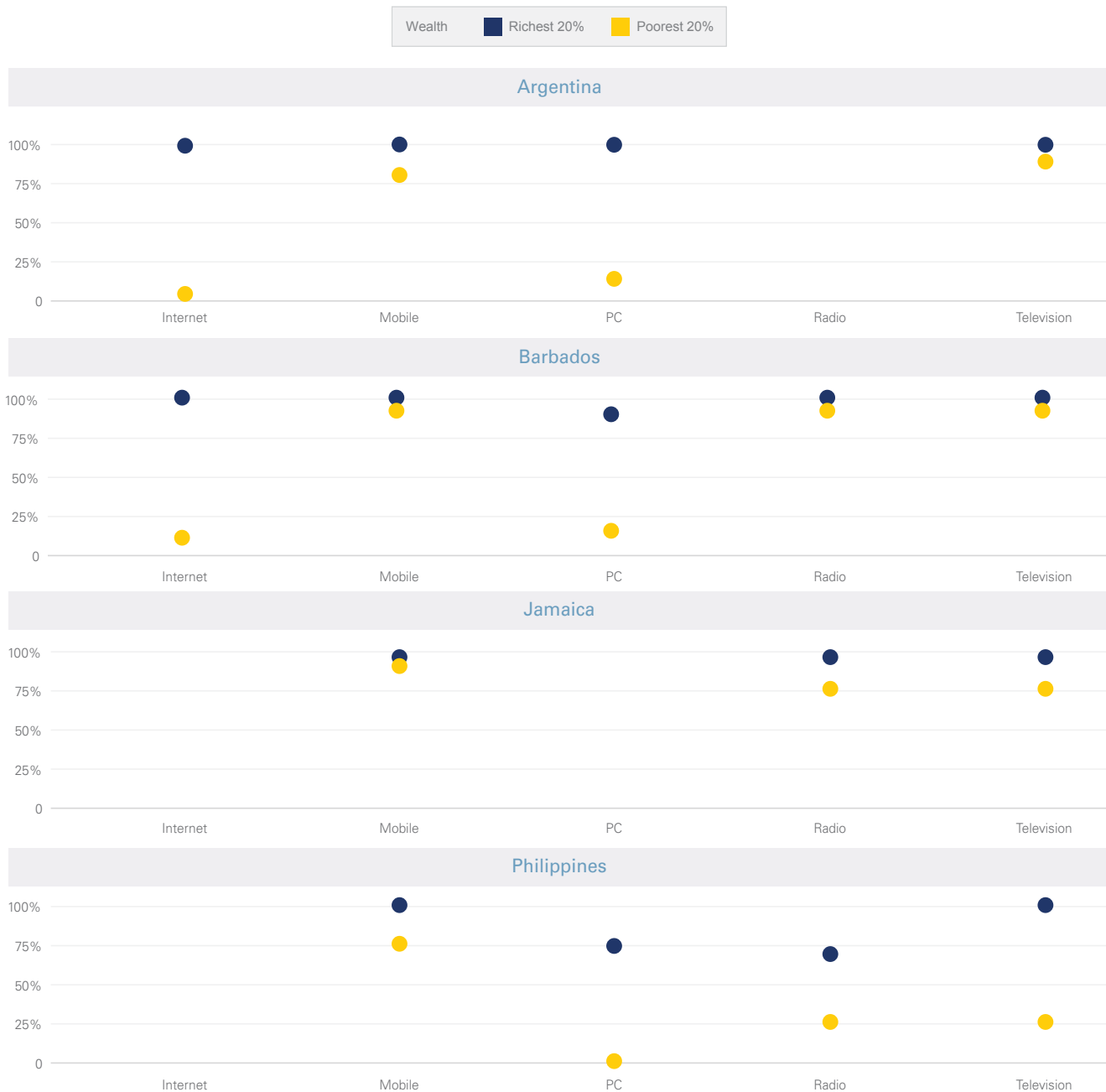
Country Name	Household Factors	Policy Response	Emergency Preparedness
Argentina	Good	Top	Top
Barbados	Top	Top	Good
Jamaica	Top	Top	Good
Philippines	Good	Top	Top

Figure 11 clearly shows substantial gaps in the share of children from the top and the bottom wealth quintiles with access to remote learning tools. It's likely that despite having a high RLRI score at the national level, the poorest and most disadvantaged children in these countries remain out of reach due to a lack of access to remote learning modalities.

Second, scoring five stars in remote learning readiness is only the first step in ensuring remote learning, as the RLRI merely represents the basic factors necessary to reach children. After initial access to a remote learning program is achieved, children need to continuously use the program, and learn and acquire necessary knowledge and skills. Improving the

coverage of a country's remote learning program is a priority but challenges exist beyond the initial RLRI assessment. Data available from the Philippines suggest that even if remote learning policy is in place, and a household has necessary assets, children are learning less under distance learning modalities. As such, according to the results of the [UNICEF-SWS survey](#), most parents (84%) observed that, despite spending more time guiding them, their children were learning less through distance learning than through in-person learning. Efforts should be put toward developing effective curricula, ensuring the program is actually used, improving the quality of remote teaching, and advancing ways to assess student performance through remote means.

Figure 11
Household level factors among countries scoring 5 stars in the RLRI assessment, by wealth group



Source: Authors' calculations using Multiple Indicator Cluster Surveys (2010-2020) and Demographic and Health Surveys (2010-2020)

Country examples of initiatives to improve remote learning

Many countries introduced initiatives to improve remote learning access during school closures caused by COVID-19. Below are country examples of such efforts undertaken by countries from both before and during the COVID-19 school closure era.

Lao PDR – [Opening up the frontiers of digital learning with the Learning Passport](#) (July 2021)

In the face of pandemic-related school closures, the Lao PDR Ministry of Education and Sports looked to UNICEF's Learning Passport, which it adapted and called [Khang Panya Lao](#) or Lao Wisdom Warehouse. The country turned to this critical online learning platform to keep children from pre-primary through to Grade 12 learning during school closures but has found additional uses, including for teacher professional development and for pre-primary learners. The Government also shared lifesaving COVID-19 prevention messages through the platform. Next steps include a formal launch planned for September 2021. Although still in the pilot phase, the platform had approximately 20,000 registered users as of June 2021. UNICEF has contributed an estimated US \$700,000 for the launch of the digital learning platform, including translation of international resources and purchase of tablets. Valuable contributions from the European Union, the Global Partnership for Education and education thematic funds is helping potentially reach 300,000 learners (52 per cent girls) and 10,000 teachers.

Egypt – [Education 2.0: skills-based education and digital learning](#) (February 2021)

With over 23 million students enrolled in pre-primary, primary and secondary education, the Egyptian education system is the biggest in the Middle East and North Africa. However, skills learned at school are often misaligned with skills needed to find decent jobs or engage positively in the development of the country. In late 2017, the Ministry of Education and Technical Education announced a full-scale transformation of the education system to be completed by 2030, including a move to skills-based learning and an expansion of digital learning. UNICEF has been one of the Government's key partners in the mainstreaming of a skills-based approach to learning in keeping with the overarching vision of Education 2.0. UNICEF's other main contribution is to ensure that skills-based learning is available to marginalized children, including those with disabilities and those who are out of school. UNICEF's investment of US \$1.2 million positioned it at the heart of the biggest education reform in the region. It unlocked an additional funding of US \$16.5 million from the UK and the GPE to advance implementation of Education 2.0's skills-based premise. Once the rollout is completed, the reformed curriculum will reach 23 million students from pre-primary through to secondary. UNICEF Egypt is currently conducting research on global best practices for skills-based education for Grades 7 to 12. Once completed, it will present a roadmap, policy advice, and strategy recommendations to education authorities to inform the rollout of Education 2.0 in these higher grades.

Timor Leste – [Opening up better with the Learning Passport](#) (8 October 2020) & [blog](#)

In Timor Leste, the Director General of the Ministry of Education, Youth, and Sports summarised: "Not only did [the Learning Passport] allow us to continue to offer digital access to educational materials to children while schools were closed, it also allowed us to train all teachers on COVID-19 prevention, helping us meet the requirements for the reopening of schools. Although schools are now back in session, the Learning Passport continues to be our public access digital library for all Ministry teaching and learning materials, for students as well as teacher training." Of note, the Learning Passport reached 95 per cent of teachers with an online course to prepare them to reopen schools and will be used in future teacher professional development, thereby marking a huge sea change from the tradition of face-to-face seminars.

Jordan – [Recovering and accelerating learning for 1 million children in Grades 4 to 9 through the Learning Bridges Programme](#) (February 2021)

In Jordan, the Ministry of Education in partnership with UNICEF, launched a national blended learning programme, Learning Bridges, in September 2020 with the aim of providing all one million students in Grades 4 to 9 with a printed activity pack each week linked to the core subjects of Arabic, English, math, and science, with life skills embedded throughout. Each activity pack comes with a QR code that links to an online resource, which includes audio content for children with poor literacy or visual impairments. Learning Bridges has been used by teachers to support children's remote learning during school closures and will continue when schools reopen. Results as of January 2021, after five months of implementation, include: 70 per cent of schools reported an implementation of more than 50 per cent of the activities; 300,000 children have engaged with more than 50 per cent of the activities; 360 online and printed resources produced, with semester two materials partially completed; and 30,000 teachers have registered for the online Learning Bridges training and 20,000 teachers have received the Learning Bridges training certificate. UNICEF's initial investment of US \$500,000 has reached 300,000 students and trained 30,000 teachers, enabling the Ministry of Education to leverage additional funding of US \$382,000 from donors to hire 12 project writers for its Curriculum Department. These funds also enabled printing the weekly Learning Bridges activity packs. The national digital platform used for accessing online blended programme costs UNICEF only US \$12 per month. To date, the cost per student (excluding the Ministry of Education's contribution) is approximately US \$1.66 per year.



Conclusions

This report summarizes an assessment of the readiness of low- and middle-income countries to deliver remote learning in response to events that lead to school closures using a new metric called the Remote Learning Readiness Index (RLRI). By aggregating the three key domains of remote learning – household factors, policy responses, and emergency preparedness – the index offers a succinct overview of the current status of a country's education sector in terms of its ability to provide schoolchildren with opportunities to continue their education during school closures. One and a half years after the pandemic was announced, schools in many countries remain partially or fully closed, a situation that suggests remote learning will continue to play an important role in delivering education for the foreseeable future. Beyond the pandemic, remote learning opens opportunities for providing education to children in humanitarian or emergency contexts. This work also highlights the special importance of resilient remote learning systems in providing opportunities for children to catch up on lost learning during times when in-person classroom instruction is disrupted, the consequences of which could be long-lasting, especially for the most vulnerable.

The results of the analysis presented in the report underscore the urgent need for countries to continue investing in their remote learning systems. By identifying the weakest links in the overall chain of remote learning delivery, the RLRI can help countries target areas where their investment and actions can produce visible results and positive change in terms of improving remote learning readiness.

Furthermore, the findings of the RLRI assessment reinforce the need for stronger support of pre-primary education, which obtained the lowest scores in terms of remote learning readiness across education levels. Many countries did not sufficiently support pre-primary education by providing policy responses tailored for this level, putting many of the youngest children at risk of being unprepared for primary school. Improvement of the policy response for pre-primary education will lead to the better overall remote learning systems at the national level, helping mitigate the challenges of learning loss for the youngest schoolchildren.

However, the need to build resilient remote learning systems goes far beyond the COVID-19 pandemic and the learning loss it has entailed. The analysis in this report revealed that 196 million schoolchildren from the 31 countries with below-average readiness for remote learning also have high or

extremely high exposure to climate and environmental hazards based on UNICEF's Children's Climate Risk Index. Resilient remote learning systems are essential to ensure that these schoolchildren can continue learning in times of crisis or emergency.

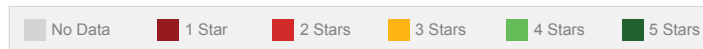
Importantly, the study revealed that RLRI scores aren't strongly associated with a country's GNI per capita, suggesting that even countries with limited resources can provide remote learning programs for a majority of students and build a resilient system of remote learning. The most urgent improvements are needed in countries with low remote learning readiness and long-duration school closures, where the education of many children has been severely disrupted, leaving them very little opportunity to ever catch up and jeopardizing the human capital gains of their societies.

It is also important to note that the RLRI only provides a national-level view of the presence of conditions necessary for children to learn at home. Within-country inequalities in access to the household assets needed for remote learning pose severe barriers to equitable learning even in countries with high overall RLRI scores. Children from rural areas and poorer households are the most deprived, lacking access to many remote learning tools at home. These discrepancies in household asset possession are likely to exacerbate existing inequalities in learning and other labor market outcomes. Therefore, it is imperative that the most vulnerable children receive the support necessary support to continue learning.

Without an effective curriculum and the actual use of remote learning systems and tools, remote learning readiness cannot translate into actual learning. Therefore, targeted investments to expand digital coverage should be paired with efforts to facilitate synergy across all three domains, creating a resilient and flexible system.

The COVID-19 pandemic has put tremendous pressure on education systems around the world. While schooling and learning were interrupted for hundreds of millions of children worldwide, the pandemic also accelerated the provision of remote learning as a viable solution during emergency events. By identifying the weakest links in each country's efforts to deliver remote learning, the RLRI can shed light on areas for potential collaboration among governments, the private sector, NGOs, and other education stakeholders.

Annex: Remote Learning Readiness Index by level of education



Country	Pre-Primary	Primary	Lower Secondary	Upper Secondary	Total
Afghanistan	No Data	2 Stars	2 Stars	3 Stars	2 Stars
Albania	2 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Angola	1 Star	1 Star	1 Star	1 Star	1 Star
Argentina	5 Stars	5 Stars	5 Stars	5 Stars	5 Stars
Armenia	2 Stars	5 Stars	5 Stars	5 Stars	4 Stars
Bangladesh	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Barbados	5 Stars	5 Stars	5 Stars	5 Stars	5 Stars
Belize	3 Stars	3 Stars	2 Stars	2 Stars	2 Stars
Benin	2 Stars	2 Stars	1 Star	1 Star	1 Star
Bhutan	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Bosnia and Herzegovina	3 Stars	4 Stars	4 Stars	4 Stars	3 Stars
Burkina Faso	No Data	4 Stars	5 Stars	5 Stars	3 Stars
Burundi	1 Star	1 Star	2 Stars	2 Stars	1 Star
Cote d'Ivoire	2 Stars	1 Star	2 Stars	No Data	1 Star
Cambodia	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Chad	1 Star	2 Stars	3 Stars	3 Stars	2 Stars
Colombia	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Comoros	2 Stars	2 Stars	2 Stars	2 Stars	2 Stars
Congo	1 Star	2 Stars	2 Stars	2 Stars	1 Star
Costa Rica	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Cuba	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Democratic Republic of the Congo	2 Stars	3 Stars	3 Stars	1 Star	2 Stars
Ethiopia	1 Star	1 Star	1 Star	2 Stars	1 Star
Gambia	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Ghana	2 Stars	2 Stars	2 Stars	2 Stars	2 Stars
Guatemala	3 Stars	3 Stars	4 Stars	4 Stars	3 Stars
Guinea	4 Stars	3 Stars	3 Stars	4 Stars	3 Stars
Guyana	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Honduras	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
India	No Data	3 Stars	3 Stars	3 Stars	3 Stars
Indonesia	No Data	4 Stars	4 Stars	4 Stars	4 Stars
Jamaica	5 Stars	5 Stars	5 Stars	5 Stars	5 Stars



Country	Pre-Primary	Primary	Lower Secondary	Upper Secondary	Total
Jordan	5 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Kazakhstan	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Kenya	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Kiribati	1 Star	2 Stars	2 Stars	2 Stars	1 Star
Kyrgyzstan	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Lao People's Democratic Republic	2 Stars	2 Stars	2 Stars	2 Stars	2 Stars
Madagascar	1 Star	3 Stars	1 Star	2 Stars	1 Star
Malawi	1 Star	1 Star	2 Stars	1 Star	1 Star
Maldives	4 Stars	5 Stars	4 Stars	5 Stars	4 Stars
Mali	No Data	1 Star	3 Stars	No Data	2 Stars
Mauritania	2 Stars	2 Stars	3 Stars	3 Stars	2 Stars
Mexico	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Myanmar	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars
Nepal	1 Star	3 Stars	2 Stars	2 Stars	2 Stars
Niger	1 Star	1 Star	1 Star	2 Stars	1 Star
Nigeria	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Pakistan	1 Star	2 Stars	2 Stars	2 Stars	1 Star
Papua New Guinea	No Data	3 Stars	3 Stars	4 Stars	2 Stars
Philippines	5 Stars	5 Stars	5 Stars	5 Stars	5 Stars
Saint Lucia	2 Stars	4 Stars	No Data	3 Stars	3 Stars
Sao Tome and Principe	2 Stars	2 Stars	2 Stars	2 Stars	2 Stars
Senegal	2 Stars	3 Stars	3 Stars	4 Stars	3 Stars
Serbia	2 Stars	4 Stars	No Data	4 Stars	3 Stars
Sierra Leone	2 Stars	2 Stars	3 Stars	3 Stars	3 Stars
South Africa	4 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Sudan	1 Star	2 Stars	2 Stars	2 Stars	2 Stars
Timor-Leste	3 Stars	2 Stars	2 Stars	3 Stars	2 Stars
Togo	1 Star	1 Star	1 Star	1 Star	1 Star
Tonga	1 Star	3 Stars	2 Stars	2 Stars	2 Stars
Trinidad and Tobago	2 Stars	3 Stars	3 Stars	3 Stars	2 Stars
Tunisia	1 Star	2 Stars	2 Stars	2 Stars	2 Stars
United Republic of Tanzania	2 Stars	2 Stars	2 Stars	2 Stars	2 Stars
Viet Nam	2 Stars	4 Stars	4 Stars	4 Stars	4 Stars
Yemen	1 Star	2 Stars	3 Stars	3 Stars	2 Stars
Zimbabwe	3 Stars	3 Stars	3 Stars	3 Stars	3 Stars

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