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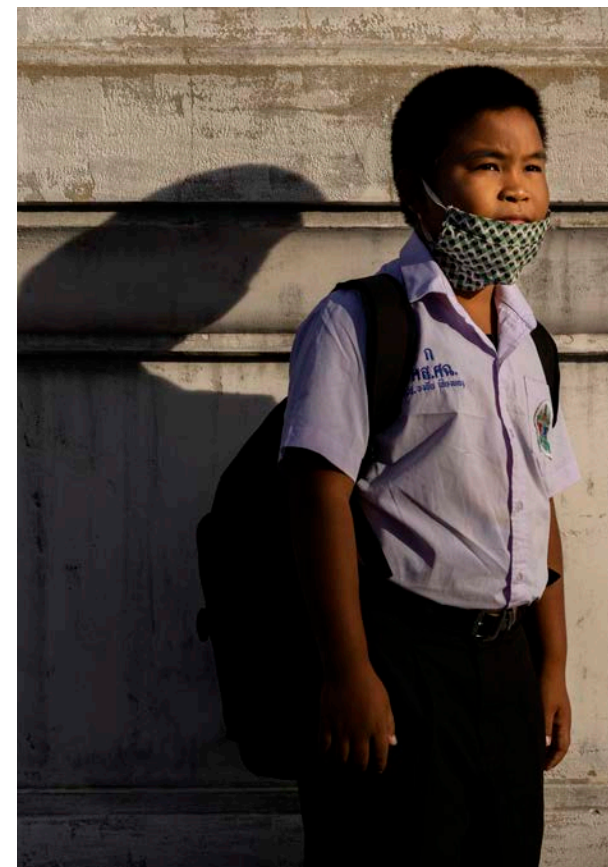
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REOPENING WITH RESILIENCE:
Lessons from remote learning during COVID-19 in East Asia and the Pacific

Introduction

More than 325 million children across East Asia and Pacific (EAP)[1] have been affected by COVID-19-related school closures since they began in February 2020 (UNESCO, 2020). These school closures risk widening the large inequities in learning across the region that existed prior to the pandemic (UNICEF East Asia and Pacific Region, 2020). The rate of children living in learning poverty – those unable to read a simple text by the age of 10 – varies widely across countries, from 18 per cent in China to 90 per cent in the Philippines and 98 per cent in the Lao People's Democratic Republic (The World Bank, 2019b). In addition, learning assessments done in 2019 across Cambodia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines and Viet Nam find that, on average, children from the poorest wealth quintile of households score much lower in reading, writing and mathematics than those children from the wealthiest households, with an average difference between 24 and 26 scale points across countries (UNICEF and SEAMEO, 2020). Furthermore, a significant number of children in the region remain out-of-school. In 2019, 33.3 million children and adolescents were out of school in EAP (UNESCO Institute of Statistics (UIS), 2019). This significant number of vulnerable children outside of education is likely to increase the longer schools remain closed (UNESCO, 2020; UIS, 2021). Furthermore, studies have found that pandemics, epidemics and resulting closures of schools can increase intimate partner violence, sexual violence and exploitation of women and girls, including teenage pregnancy and early marriage (Bakrania et al., 2020; Babb and Pasic, 2020). The negative effects of school closures on children's education and psycho-emotional and mental wellbeing are well known and attest to the need to reopen school doors as soon as possible (Sharma et al., 2021; UNESCO, UNICEF, World Bank, World Food Programme and UNHCR, 2020).

Schools across the region were closed either fully or fully and partially, for an average of 151 days from February 2020 to August 2021. *Figure 1* shows the pre-COVID-19 level of learning of countries by the total duration of full and partial school system closures. EAP countries further down in the graph such as Vanautu, Solomon Islands and the Lao People's Democratic Republic had lower learning outcomes prior to the pandemic. Countries farther to the right such as Myanmar, Indonesia and the Philippines have had longer periods of school closures. The size of the circles represents the school-age population (ages 5–17) of the country.

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1 Countries included in East Asia and Pacific: Brunei Darussalam, Cambodia, China, Indonesia, Democratic People's Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Pacific Islands (Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu), Papua New Guinea, Philippines, Republic of Korea, Thailand, Timor-Leste, Viet Nam.

FIGURE 1. Harmonized Learning Outcomes[2] by number of fully or partially closed school days from February 2020 to August 2021

Note: Data on learning outcomes pre-COVID-19 come from the HLO database of 164 countries and learning outcomes from 2000 to 2017 (Angrist et al., 2021). Data on the duration of education systems being fully or partially closed come from the UNESCO Global monitoring of school closures due to COVID-19. The size of the circle represents the school-age population of a country with data from UNESCO Institute for Statistics.

2   The Harmonized Learning Outcomes (HLO) is a database that enables comparisons of learning progress across 164 countries. The database combines results from seven different types of tests, which each cover between 10 and 72 countries. Scores were disaggregated by schooling level (primary or secondary), subject (mathematics, science and reading) and gender.

Without mitigating measures, the impact of school closures on learning will be more severe in the Southeast Asian countries where the pre-pandemic learning outcomes were already low, and where schools closed their doors for a longer period of time. For example, the Philippines, Indonesia and Myanmar were already among those countries in the region with low levels of learning. These same countries have also had schools closed fully or partially for long periods of time – 346, 415 and 454 days respectively – from the start of the crisis until August 2021. Pacific island countries such as Tonga and the Marshall Islands had low levels of learning prior to COVID-19 but have had their schools shut for relatively shorter periods of time (*see Figure 1*).

The effects of school closures on enrolments were witnessed as schools across the region began to reopen at the end of 2020. An estimated 2.7 million children who were previously in school are 'at-risk' of not re-enrolling for the new school year (UNESCO, 2020). These 1.2 million girls and 1.4 million boys from pre-primary to upper secondary that are at risk of dropping out are in addition to the 15 million girls and 18 million boys who were already out-of-school in the region before the pandemic (Babb and Pasic, 2020). It is expected that countries in the region will experience significant learning losses leading to economic losses due to the disruption in education. Estimates found that, on average, due to school closure, a student in East Asia would lose $1,344 in earnings per year of life, resulting in a total economic loss for the region of $1.3 trillion (Asian Development Bank (ADB), 2021). The economic consequences of school closures are likely to be even higher and longer lasting than these estimates for three reasons:

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1. First, the above estimates only took account of the length of school closures monitored until January 2021 (ADB, 2021).

2. Second, the estimates do not encompass the loss in the long-term benefits of education that go beyond a person's individual gains in productivity and earnings, such as health and nutrition (ADB, 2021; Borkowski, et al., 2021).

3. Third, the economic contraction throughout the pandemic has forced many families into the state of unemployment and ensuing rise in debt levels. Such financial distress in the pandemic has not only pulled vulnerable children out of schools into the labour force, but also served as a formidable barrier in families' spending on vital social services for their children, including education, health, housing, nutrition, water or sanitation (ADB, 2021; UNICEF, 2021).

Remote learning responses

Facing the pandemic and related school closures, governments across EAP acted quickly to deploy remote learning strategies that encompassed various modalities ranging from paper-based materials to take home and broadcast media (including television and radio), to mobile phones and digital platforms. A survey of ministries of education (MoEs) officials conducted in May 2021 indicated that more than 70 per cent of EAP countries[3] that responded reported the establishment of online platforms and the provision of take-home packages across all education levels during the pandemic (*see Figure 2*).

Online platforms and take-home packages were the most commonly used remote learning modality, followed by television and, to a lesser extent, mobile phones and radio (*see Figure 2*).

A key factor in the use of many remote learning modalities is access to electricity. In certain EAP countries there remains a large share of the population without access to electricity, particularly, in rural areas. These electricity disparities are most severe in Pacific Island countries such as Papua New

FIGURE 2. Remote learning modalities promoted by countries in East Asia and Pacific
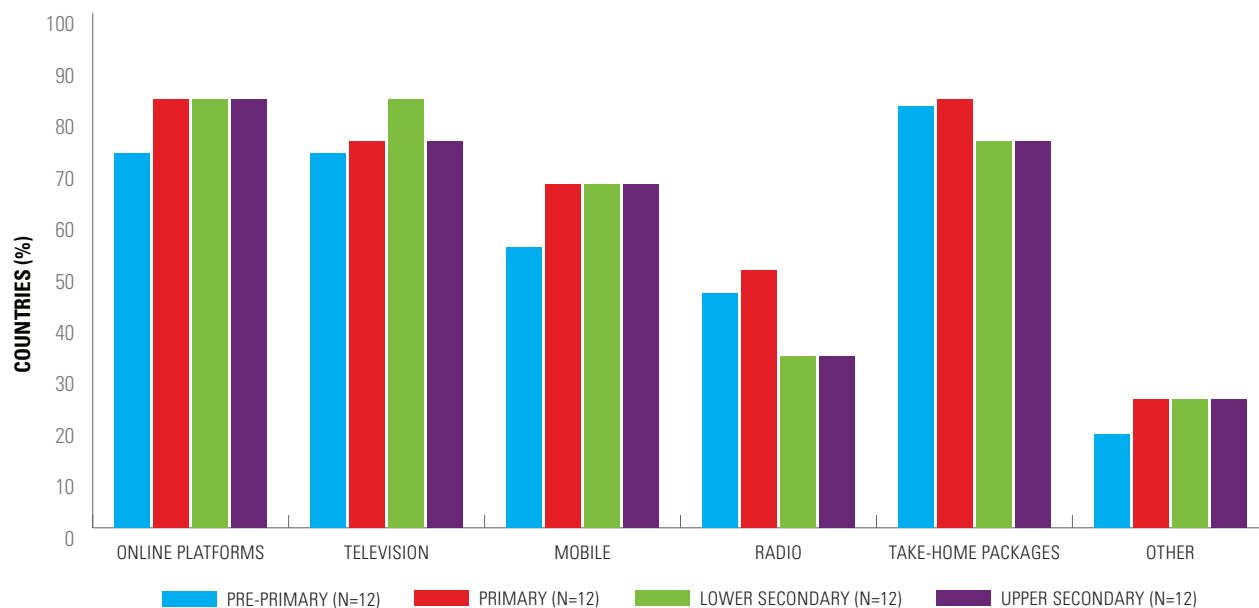
Note: Data on remote learning modalities come from the joint UNESCO, UNICEF, World Bank and OECD surveys of ministries of education.

Guinea where 83.2 per cent of the population in urban areas can access electricity vs. just 60.4 per cent in rural areas. In Vanuatu access to electricity is just 54.4 per cent in rural areas compared with

94.7 per cent in urban areas. In Southeast Asia, large disparities remain in Myanmar with just 57.5 per cent of the population in rural areas having access to electricity compared with 92 per cent in urban

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3   UNICEF EAP countries that responded to the survey include Cambodia, Cook Islands, Fiji, Malaysia, Mongolia, Philippines, Solomon Islands, Thailand, Timor Leste and Viet Nam.

areas (*see Figure 3*). These persisting gaps are extremely important as the majority of the population in these countries is rural, where poverty levels are also usually higher. The disparities across rural and urban areas mirror education inequities in the region between families living in urban areas and low learning outcomes of the rural poor. The lack of access to electricity in these countries shows that the poorest students do not have the basic means to benefit from any technology-enabled remote learning. Without action, the risk is that the gap in learning will increase between rich and poor households.

FIGURE 3. The percentage of the population with access to electricity, rural vs. urban share, in selected countries in East Asia and Pacific

PERCENTAGE OF THE POPULATION
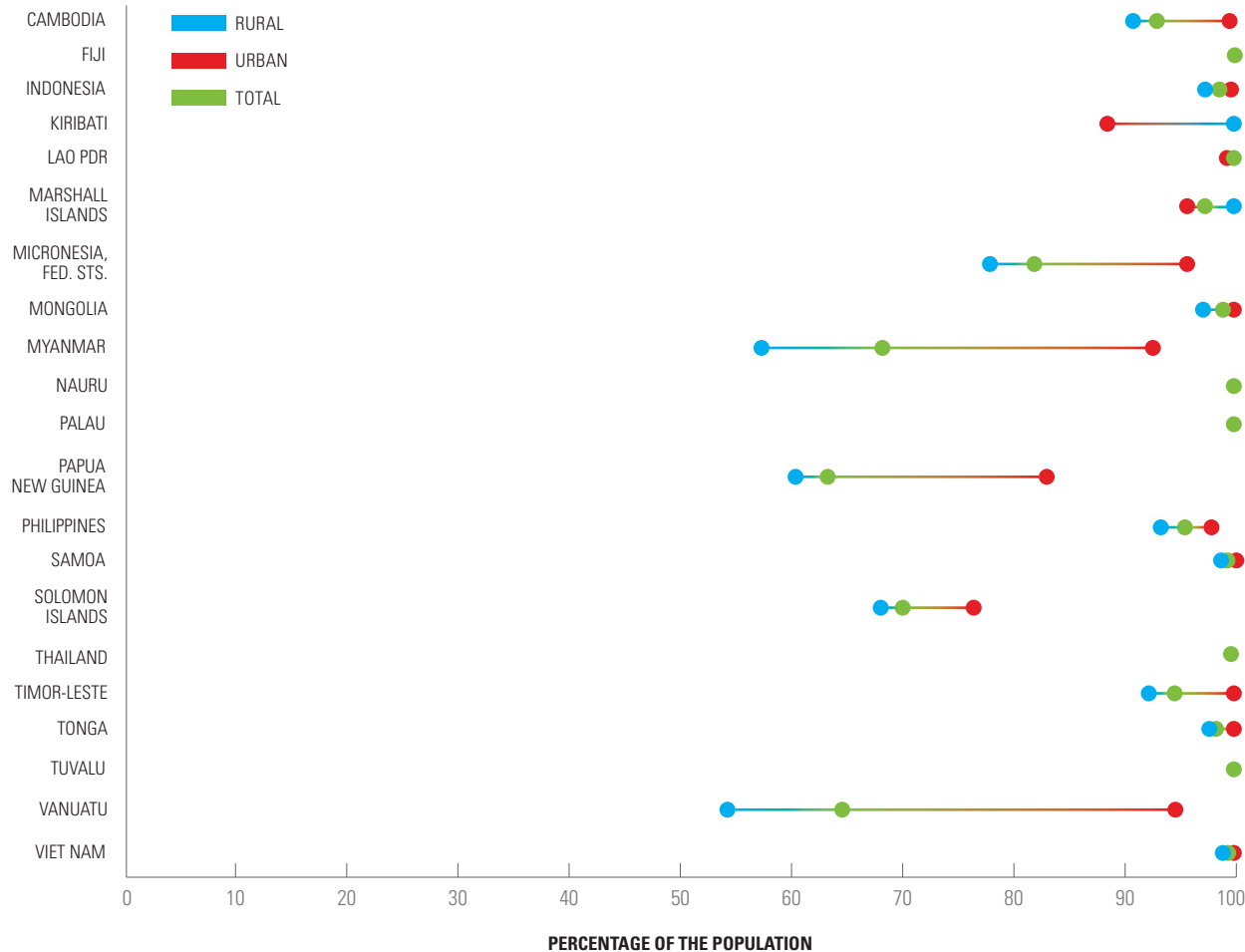
Source: *World Development Indicators, World Bank, 2021.*

Even where there is electricity, great inequities remain in access to connectivity and the devices needed for digital learning – this was the most reported remote learning modality used by EAP MoEs. For example, Mongolia developed a digital platform on which students were able to watch pre-recorded lessons and engage with interactive learning content (UNICEF, 2021a.) However, just over one third of households (38 per cent) had access to connectivity in the country in 2018 (see *Figure 4*) and just 2 per cent from the poorest quintile of households had access to the internet (UNICEF Multiple Indicator Cluster Surveys (MICS), 2018). Similarly in Thailand, the MoE encouraged schools to use video conferencing tools such as Zoom, Microsoft Teams and Google Classrooms to deliver course content (UNESCO, UNICEF, World Bank and OECD, 2021a); however, less than half of the poorest quintile of households had access to connectivity in 2019 (UNICEF MICS, 2019).

Broadcast media such as TV and radio were another key delivery modality for EAP countries. For example, Cambodia broadcasted education content on the channel TVK1. However, there remain large gaps in access to television between urban and rural regions in many EAP countries including Papua New Guinea, Kiribati and Myanmar, Cambodia and Timor Leste (see *Figure 5*).

FIGURE 4. Percentage of households with access to internet connectivity, rural vs. urban, for selected countries in East Asia and Pacific
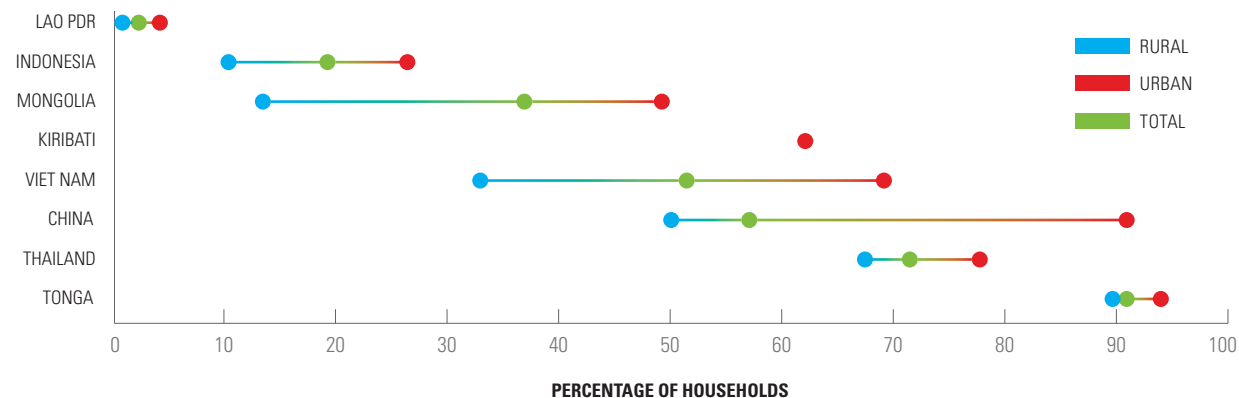
Notes: Elaborated based on available Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) data, 2010–2020.

FIGURE 5. The percentage of households with access to TV, rural vs. urban share, in selected countries in East Asia and Pacific
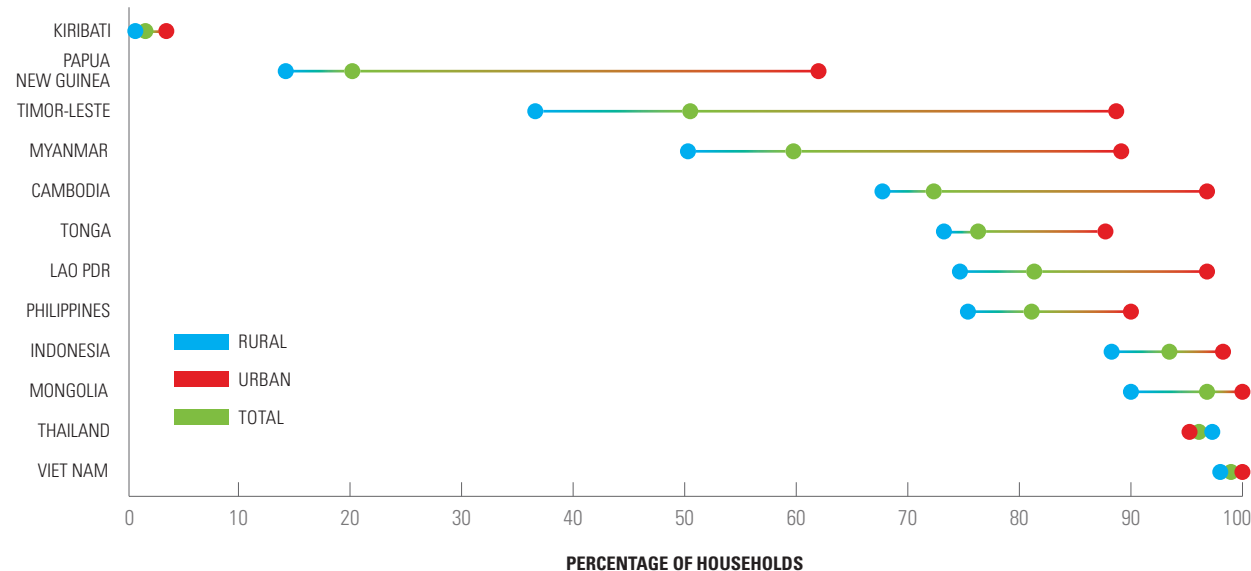
Note: Elaborated based on available DHS and MICS data, 2010–2020.

Mobile phones are the most accessible technology for households across the region across both rural and urban areas (*see Figure 6*). With moderate exceptions of Myanmar and Pacific Island countries, such as Papua New Guinea and Kiribati, the majority of households even in rural areas had access to mobile phones. However, despite their wide availability, mobile phone-based modalities for remote learning were just the fourth most common for countries in the region.

Additionally, access to any of the devices that enable remote learning by a household does not mean use by a child for learning. For example, a study from the Philippines found that in households with multiple children, lack of mobile phones for learning is common (Agence France-Presse, 2021). Furthermore, the number of devices matters as many households with just one device will give preference to the oldest child to use it for educational purposes (Agence France-Presse, 2021). While mobile phones can be an engaging medium for learning, this is not guaranteed. A recent study of students' home learning experience in Indonesia found that students received insufficient support during remote learning, indicating that teachers' support consisted just sending homework assessments through WhatsApp without providing follow-up support or interaction (Putra et al., 2020). Thus, in order to implement remote learning policies effectively, it is all the more important to make sure that sufficient range of access to the needed technologies is accompanied by the proper measure of relevant learning support.

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FIGURE 6. The percentage of households with access to mobile phones, urban vs. rural, in selected East Asia and Pacific countries
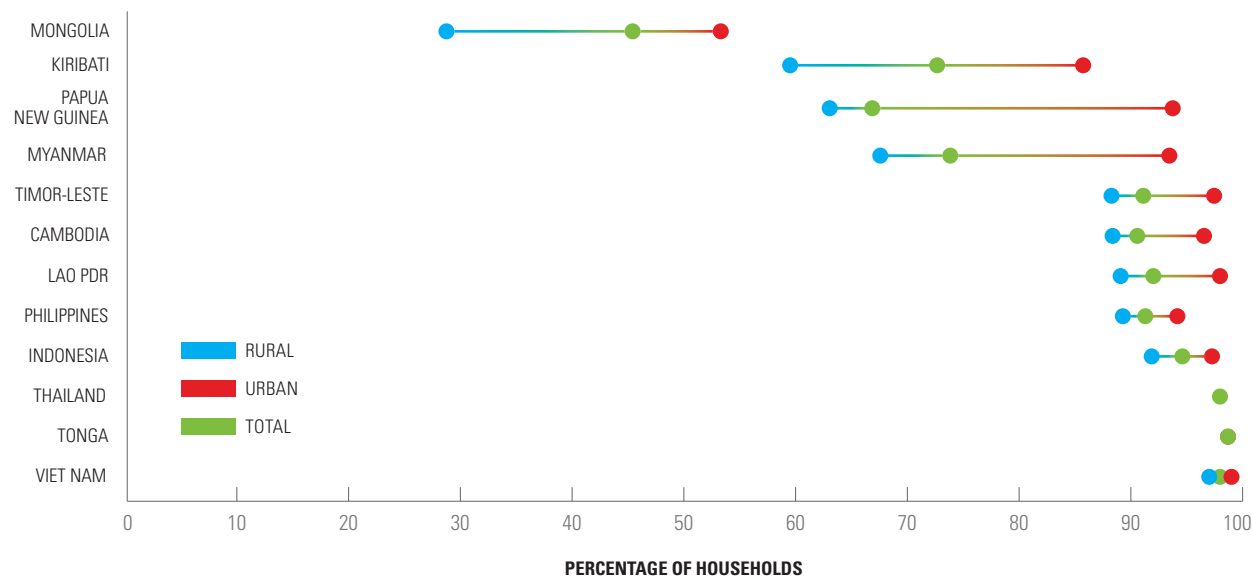
Note: Elaborated based on available DHS and MICS data, 2010–2020.

From remote learning policy to implementation

To address disparities in technological access, EAP countries have adopted multiple remote learning modalities simultaneously to reach more children. In the Philippines, the Department of Education developed a process of engaging students in individual learning agreements or study plans between teachers and students. These learning agreements include pre-tests and post-tests as well as self-directed learning modules which are complemented by radio, TV, and internet sources (UNICEF, 2020a). The flexibility of self-directed modules was especially useful for children with other commitments, allowing them to study in places and at times that fit their schedule (UNICEF, 2020a). Even with these efforts to expand access, the poorest still struggle to engage in remote learning. A rapid survey conducted in the Philippines during 2020 found that poorer respondents were more likely to cite lack of access to internet, devices and learning materials as major learning barriers for their children if the school closure were to be further prolonged (Innovations for Poverty Action, 2020).

Technology and delivery systems are just one ingredient of remote learning – teachers and parents are key enablers for successful remote learning.

In the Philippines, teachers were encouraged to provide ongoing, personalized support to students. To facilitate peer learning and the sharing of materials and experiences by teachers, the department of education established information communications technology (ICT) resources for the Alternative Learning System (ICT4ALS) digital platform where students and teachers could access learning materials and where teachers could partake in webinars, courses and tutorials. As of August 2020, the ICT4ALS platform had more than 26,000 active users and content was actively extended to those without access to technology through printed modules and worksheets (UNICEF, 2020a). Across the region many

countries made significant efforts to improve teacher readiness for remote learning. The Vietnamese Ministry of Education and Training provided virtual training for teachers and school managers to build the knowledge necessary to deliver online learning and classroom management (UNICEF, 2020b). The Malaysian Ministry of Education established a teachers' digital learning community, called Komuniti Guru Digital Learning, to equip teachers with the necessary skills and knowledge to deliver virtual lessons effectively and efficiently through a training course consisting of notes, video tutorials and quizzes on how to plan, build and launch digital learning content (UNICEF, 2020c).

The COVID-19 pandemic has highlighted the need for a more thorough understanding of the needs of families, teachers and students when learning must move from the classroom to the home. In Cambodia, the Ministry of Education, Youth and Sport (MoEYS)

conducted a needs assessment survey with more than 15,000 respondents consisting of students, caregivers, teachers, school directors, teacher trainees and educators, administrators and local authorities (Kingdom of Cambodia MoEYS, 2020; UNICEF, Save the Children and MoEYS, 2021). This informed the Cambodia Education Response Plan to the COVID-19 Pandemic, published 15 July, 2020. This comprehensive plan outlined the budget allocation and technical support needed to support learners remotely, including those most vulnerable, and to guide teachers and school administrators (Kingdom of Cambodia MoEYS, 2020; UNICEF, Save the Children and MoEYS, 2021).

Similarly, the National Department of Education (NDoE) in Papua New Guinea conducted a rapid needs assessment surveying headteachers of 404 schools and education institutions (UNICEF, 2020d). The results of the assessment highlighted

various challenges from a lack of access to accurate information about COVID-19 to limited safety/protection and access to water, sanitation and hygiene (WASH) facilities, providing proper guidance for the NDoE on how to address the pandemic-induced needs of students and teachers. In Viet Nam the Ministry of Education and Training used the needs highlighted by the crisis to embed digital literacy into the national curriculum for all school levels. With the new national digital literacy framework embedded in the next 10-year national education sector plan and budget, Viet Nam is building resilience into their education system for the future (UNICEF, 2020b).

Building resilience in education systems is also essential as climate change continues to increase the frequency and severity of extreme weather events, including cyclones, droughts, floods and rising temperatures and sea levels, resulting in unexpected school closures and relocation of populations (UNICEF, 2021b; Coelho, 2019). In EAP, children are at particularly high risk of climate change disasters. On average, EAP countries score 6.5 on the Children's Climate Risk Index (CCRI). This index is composed of several indicators across climate/environment hazards, shocks, stresses and child vulnerability, meaning that children in these countries are at high risk of climate change. Two countries in the region – the Philippines and Myanmar – are at extremely high risk, scoring above 7.1 in the index (UNICEF, 2021b). *Figure 7* shows countries' CCRI score mapped against children's learning. Multiple countries in the region, including Papua New Guinea, Indonesia and the Philippines, face low learning levels and high climate risk.

BOX 1. LEARNING PASSPORT IN TIMOR-LESTE

Throughout 2020 and 2021, the online and offline learning platform Learning Passport programme was developed in a partnership between UNICEF and Microsoft Community Training. The programme reached 10 countries worldwide to support continuous learning during school closure (Learning Passport, 2021). Timor-Leste was the first country to implement the programme as their official digital learning platform called Eskola Ba Uma (or School Goes Home). In addition to the fast implementation of the platform, the Ministry of Education, Youth and Sports (MoEYS) aimed to build digital learning expertise to support teachers and learners once they are back in school. To reach this goal, UNICEF collaborated with the MoEYS to develop the use of Eskola Ba Uma for

blended teaching and learning in classrooms. To begin with, focus groups discussions were held with teachers and students to identify their needs and perceptions on digital learning and Eskola Ba Uma. Key findings suggested that all teachers were excited about digital learning and thought that digital skills were an important component to enable learning. They highlighted the importance of training and continuous support to acquire more digital skills and improve the use of platform for classroom teaching in a blended learning approach. On the other hand, students were fast in learning how to navigate the app and were intrigued by its features. This initial research will be complemented when teacher training and implementation is scaled in classrooms (Dewan et al., 2021).

FIGURE 7. Harmonized Learning Outcomes by the Children's Climate Risk Index (0–10)

Note: Shows the pre-COVID-19 learning level of countries using HLO by countries' CCRI score. Countries which appear lower on the graph had lower pre-COVID-19 learning levels. The size of the circle represents the school-age population of a country.

Conclusion and recommendations

The COVID-19 pandemic and school closures have highlighted the need for responsive and equitable remote learning systems that can be used in times of crisis. In light of this pressing need, the following recommendations are for policymakers and practitioners planning and implementing remote learning systems in EAP:

1 **Reopen schools as soon as possible.** While the development of remote learning systems is important to build resilience for current and future crises, there is no replacement for in-person learning. Schools are much more than places for learning and all essential cross-sectoral services should be included in emergency response plans when schools are closed.

2 **Ensure all households have access to electricity, a key to any remote learning strategy.** It is important to acknowledge that any technology-based remote learning strategies are doomed to fail if students and teachers do not have access to electricity. Governments and relevant partners from private and public sectors must advocate for, and invest in, the electricity infrastructure in the vast areas of EAP countries where there is no power.

3 **Assess the needs of education stakeholders. It is critical to understand fully the needs of students, teachers and other education stakeholders, including caregivers, school leadership and communities**. Additionally, such needs must range holistically from physical health and nutrition to mental health, which fundamentally go hand in hand with children's lifelong learning. Conducting these need assessments helps not only education authorities to understand any lack of infrastructure and devices (i.e., internet/TV/phone), but also to develop specific strategies to reach marginalized students, such as children with disabilities and ethnic and linguistic minorities.

4 **Combine different modalities to deliver engaging and equitable remote learning.** After thoroughly understanding the needs of education stakeholders, it is important to strive to meet such needs by combining high-tech and low/no-tech modalities. Using multiple modalities provides broader accessibility and flexibility, while also making remote learning more engaging. In addition to making learning more inclusive and flexible, blending different remote modalities can provide an effective training medium for teachers to build relevant skills and to apply technological tools in their teaching, whether in the classroom or remote.

5 **Leverage existing partnerships to optimize the implementation of remote learning policies.** MoEs alone cannot implement effective remote learning policies and overcome the COVID-19 crisis. Collaboration with non-governmental organizations and private sector, and astute negotiation – for example with phone and internet companies – on behalf of the assessed needs of education stakeholders can lead to successful implementation of remote learning policies in both breadth and depth. Such long-term partnerships can not only accelerate the process of triumphing over the pandemic crisis, but also serve as a safety net for unknown, but potentially forthcoming, crises in the future.

6 **Embed implementation research into remote learning practice.** While education stakeholders have responded quickly to the need for remote learning there are still significant gaps in understanding the impact of remote learning, especially in settings where income and resources are low. Consistent investment in implementation research, with assessments of educational stakeholders' feedback that adheres to ethical standards, can provide indispensable guidance for the development of more equitable and resilient education systems (Brossard et al., 2021).

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