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KEY POINTS

- **High learning time loss:** The data suggest significant learning time loss, which is similar by gender, location, and income levels.

- **Virtual learning helpful but access is uneven:** Remote learning and e-learning were perceived to be helpful by 87%. However, 46% of respondents do not have access to TVs or the internet.

- **Likely significant dropout and decline in attendance:** Overall dropout rate may be 13%; and regular school attendance is likely to drop significantly, mainly due to lost motivation to study and financial challenges.

- **Recommendations:**
(i) prioritizing interventions to mitigate learning loss;
(ii) focusing on essential learning competencies;
(iii) scaling up education technology using mobile smartphones;
(iv) strengthening support to teachers and community;
(v) providing targeted support to students with low motivation; and
(vi) expanding of financial support to at-risk students.

Impact of COVID-19 on Primary School Students in Disadvantaged Areas of Bangladesh

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INTRODUCTION

As in many other countries, the coronavirus disease (COVID-19) pandemic has been an unprecedented shock to livelihoods and education in Bangladesh. All educational institutions were closed beginning 17 March 2020, and government services and all nonessential businesses were closed down on 26 March 2020. Economic activities gradually resumed from June 2020 but were hit again in 2021 due to the lockdown in April–August 2021. Job postings in a major online job board dipped to 18% of 2019 levels in April 2020, but fully recovered by September 2021.[1] The gross domestic product growth rate of Bangladesh is expected to bounce back from 3.5% in fiscal year (FY) 2020 to 5.5% in FY2021.[2] While economic activities are gradually resuming, all schools started to reopen from 12 September 2021 after almost 18 months of closure.

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In order to minimize learning disruptions, the Government of Bangladesh quickly initiated mitigating actions using virtual learning modalities. From 29 March 2020, the government started broadcasting lessons based on the national curriculum through television (TV) and online platforms, including Facebook and YouTube, with 20 minutes of content for each lesson every other day for grades 1 to 5. On 8 May 2020, a COVID-19 Response Plan for the Education Sector was finalized, supporting distance learning through short message service (SMS), TV, and online platforms. Community support organizations provided myriad emergency mitigation measures, including radio broadcasting, telephone follow-ups, and live lectures through social media. The access to information (a2i), in collaboration with the government has built an online repository for uploading and storing lessons and related e-content. In April 2021, virtual classes based on the Google Meet platform were launched by the Ministry of Primary and Mass Education for all primary schools.

With the school closure lasting for almost 18 months, it is critical to understand the effect of the pandemic on students and how they perceive the remote learning experience. Evidence and simulation exercises from Bangladesh and elsewhere suggest that (i) about 31% of children worldwide cannot be reached by digital and remote learning programs;[3] (ii) there is risk of COVID-19 aggravating inequities in education;[4] and (iii) only about half of the poor secondary students in Bangladesh who have access to government-provided, TV-based learning programs are accessing them, even though 86% are aware of them.[5] It is important to explore and provide field evidence on whether primary students face similar issues, as foundational skills are developed in the early grades. Also, primary-aged students may have even lower self-directed abilities to learn from remote programs compared to secondary students who are older.

SURVEYS

Prior to the pandemic, children and their households had been interviewed in person from December 2019 to February 2020.[6] Two 30-minute phone-based surveys were conducted by the Asian Development Bank (ADB) afterward, one in August 2020 and the other in August 2021 to assess the effect of the pandemic on primary-age children. These two follow-up surveys covered 32 of Bangladesh's 64 districts and reached 1,221 and 1,806 households, respectively, with currently enrolled children aged 8–14 years. These children are from some of the most disadvantaged areas in Bangladesh (areas where a large proportion of out-of-school children reside).

SAMPLE FEATURES

The sample targeted households with lower-than-average incomes, and who were more likely to be in rural or slum areas. Of the 1,806 children in the latest survey, 51% are female (Table 1). Before the pandemic, nearly 67% of the children were enrolled in grades 3 to 5. About 31% of the households resided in urban and metropolitan areas and 9% in slum areas. In addition, 43% of the mothers and 49% of the fathers of these children had no schooling education background. A substantial 23% of children had repeated at least one grade in the past, with boys slightly more likely than girls to repeat grades. Baseline assessment indicated that the learning level of these children was low, particularly in foundational numeracy, even before the pandemic. For example, the average student was able to answer only 49% of basic division questions, and only 55% of basic multiplication questions correctly. There is no significant difference between male and female students in household income and learning levels. (See the last column of Table 1 for corresponding indicators in nationally representative surveys.)

KEY FINDINGS

We report eight major findings based on the latest survey in August 2021, supplemented by the survey in August 2020.

Finding 1: Household income declined significantly, with slum dwellers bearing the brunt of the pandemic's socioeconomic impact.

Based on income and expenditure data collected on the same households in December 2019 and August 2021, the nominal monthly income declined in 74% of responding households and by a magnitude of 35% on average (Figure 1), while expenditures declined by 17%. Income and expenditure decline was more severe in the slum areas than in the nonslum urban areas presumably because households in urban slums depended on informal jobs that were severely hit by the lockdowns. The income drop was more severe for richer quintiles.

Majority of households surveyed could not generate sufficient incomes to meet their expenditures during the pandemic. By August 2021, 53% of survey households reported income less than expenditures (median deficit of taka [Tk] 2,000), up from 4% before the pandemic.

To respond to the income shock, households mostly used their savings or borrowed from friends and relatives, according to respondents in the survey.

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3   UNICEF. 2020. COVID-19: Are Children Able to Continue Learning During School Closures? https://data.unicef.org/resources/remote-learning-reachability-factsheet/.
4   J. P. Azevedo et al. 2020. *Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates.* http://pubdocs.worldbank.org/en/798061592482682799/covid-and-education-June17-r6.pdf.
5   K. Biswas et al. 2020. *TV-Based Learning in Bangladesh: Is It Reaching Students?* https://openknowledge.worldbank.org/bitstream/handle/10986/34138/TV-Based-Learning-in-Bangladesh-Is-it-Reaching-Students.pdf?sequence=4&isAllowed=y.
6   ADB. 2016. *Bangladesh: Supporting Fourth Primary Education Development Program.* Manila (TA 9276: Support to Primary Education Development co-financed by the Government of Canada).

Table 1: Baseline Descriptive Statistics for Survey Sample

| Variable | Survey Sample (disadvantaged areas) | | | National Sample |
	All	Male	Female	All
Average income per month of the household before COVID-19[a] (taka)	14,889	15,031	14,302	17,753[b]
Proportion of female children (%)	51			52
Age, in completed years, of the child (average)	10	10	10	11.0
Proportion of households in urban and metropolitan areas (%)	31	29	33	20
Proportion of households in slum areas (%)	9	8	10	3[b]
Grade child is currently enrolled in (average)	4	4	4	5
Proportion of mothers of children with no schooling (%)	43	42	43	26
Proportion of fathers of children with no schooling (%)	49	48	50	29
Proportion of children who have repeated grades (%)	23	25	21	
Percentage of correct answers in addition	69	69	69	
Percentage of correct answers in subtraction	57	58	57	
Percentage of correct answers in multiplication	55	55	56	
Percentage of correct answers in division	49	48	51	
Total number of observations	1,806	887	919	

COVID-19 = coronavirus disease, HIES = Household Income and Expenditure Survey, MICS = Multiple Indicator Cluster Survey.

[a] $1.00 = Tk84.8 as of October 2020. Source: https://www.bb.org.bd/econdata/exchangerate.php.
[b] Estimates from HIES 2016/17, as MICS 2019 did not have this information; other data in this column are from MICS.

Sources: Asian Development Bank estimates based on December 2019 baseline survey; HIES 2016/17; MICS 2019.

Figure 1: Change in Monthly Nominal Income Before and During COVID-19
(taka)

Legend: ■ Average monthly income as of December 2019   ■ Average monthly income as of August 2021
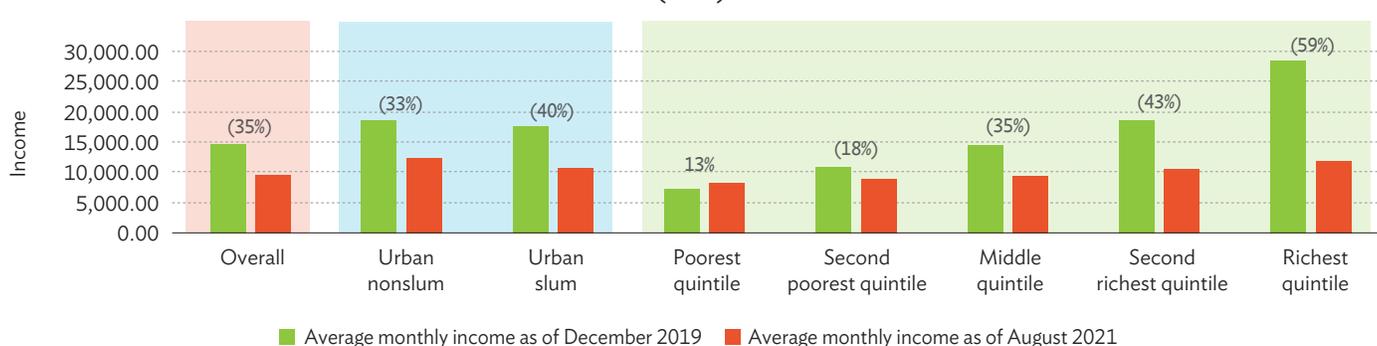
( ) = negative, COVID-19 = coronavirus disease.
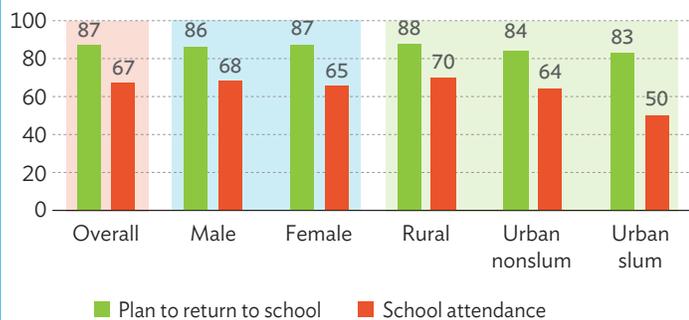Sources: Asian Development Bank estimates based on December 2019 survey and August 2021 survey.

Finding 2: Dropout rates at the primary grades may increase substantially after 18 months of school closures and low attendance is also a distinct possibility mainly stemming from financial constraints.

A natural question that arises is, what implication does COVID-19 have on children's education? Will COVID-19 lead to more school dropouts? This threat seemed minor by August 2020 but had become a real concern by August 2021. When households were asked whether the child who was in school before the school closures in March 2020 planned to return to school full-time when the government decides to reopen schools, more than 13% of the currently enrolled planned to drop out, and

approximately two-thirds of them have no plans of returning to a school after dropping out. The dropout rate is high across grades. Male students have a slightly higher hazard of dropping out (14%) than female students (13%). Among students in slum areas, 17% planned to drop out (Figure 2). In contrast, in August 2020, only less than 1% of the students planned to drop out.

For students who plan to return to schools, there is a high risk that children's attendance in school will be significantly lower, due to financial constraints and demotivation during the pandemic. According to the survey in August 2020, only two-thirds say that their attendance once school reopens will be full-time or about the same as before. For students in urban areas, only 60%

Figure 2: Expected Dropout and School Attendance after School Reopening (%)

Source: Asian Development Bank estimates based on surveys in August 2020 and August 2021.

to TV is fairly low, with only 44% of households surveyed having a TV (Table 2). There is a significant difference between urban and rural areas in TV ownership. Compared to urban households (76% with TV ownership), rural households are much less likely to have a TV (32%). Access to radio including the clearer frequency modulated (FM) radio channels from mobile phones also appears to be low in rural areas. Only 6% of households have a radio. Of those with mobiles, 37% say they can access radio or FM channels from their mobile phones; 54% of the households say they cannot access radio; and the remaining 9% say that they do not know whether they can access FM channels from mobile phones.

Access to computers and the internet is extremely low for students surveyed. For instance, less than 3% have a computer at home, while 24% of households have accessed the internet in the last 6 months. Internet access is higher than computer access of the students presumably because they can also access the internet using their smartphones, which are owned by 40% of those with mobile phones. Internet access is higher in urban (30%) than in rural areas (21%).

responded that they are likely to attend classes at the same frequency as before, compared to around 70% for students in rural areas. The situation is worse for those in slum areas, with around 50% responding that they would attend schools as before, compared with 64% in nonslum urban areas. About 18% of students expect to experience difficulty returning to schools regularly. Almost three-fourths of those with difficulty said they cannot afford education expenses. Only 11% of students who expected difficulty in returning to school attributed this to COVID-19. This suggests that financial considerations play a bigger role in determining school attendance, more so than the fear of contracting COVID-19 itself.

Finding 3: Access to digital devices for remote learning and e-learning is inadequate, and there is a large divide between rural and urban areas in access to TV and online content.

For distance and remote learning to work, access to mobile phones, TV, radio, computers, and the internet is crucial. Access

Finding 4: Though most students still prefer in-person teaching, virtual teaching is promising, with mobile phones as the preferred mode of remote or e-learning platform.

Most respondents in August 2020 preferred in-person teaching in schools. For example, when households were asked what they would do if the government reopened schools, 91% chose full-time study in school and 5% preferred blended learning (combination of home and school).

Despite the preference for in-person learning, virtual modality is promising. Though 46% of respondents had not used any remote learning services as of August 2021, 75% were aware of Google Meet classes, 24.5% of whom attended Google Meet classes. Lack of facility or device at home was the most important reason for students not to attend online class. The adult respondents were also asked whether their child prefers to learn through radio, TV, the internet, or mobile phone. The majority, 73%, said

Table 2: Share of Households with Access to Electricity and Electronic Tools (%)

Category	Overall	Male	Female	Rural	Nonslum Urban Areas	Slum Areas
Have access to mobile phone	96	96	96	96	96	97
Have access to smartphone (for those with mobile phones)	40	41	39	36	50	50
Have electricity connection	94	94	93	92	99	99
Have either a TV or radio	47	47	47	36	76	75
Have a TV	44	45	44	31	76	74
Have access to internet	24	25	22	21	32	24
Have a radio	06	06	06	07	04	04
Have a computer	02	03	02	02	02	05
Total observations	1,221	629	592	872	250	99

TV = television.
Source: Asian Development Bank estimates based on August 2020 survey.

the child was interested in learning through mobile phones (mostly smartphones) (Figure 3). This is presumably because most households have access to phones, and because it also involves person-to-person interaction.

Finding 5: Most students have not received monitoring or guidance during the school closure period, and there is limited education-related support from their families and the community.

Even though schools are physically closed, it is critical that teachers keep in touch with their students and check the progress of the children using different modes. Teacher engagement is a good predictor of student learning by raising their intrinsic motivation to learn.[7] Although 43% of the students surveyed in August 2021 were not contacted by teachers for monitoring or guidance in the previous month, this has considerably improved from August 2020. Among those students who were contacted, most were contacted once a week or less frequently. Two-thirds were contacted over the phone and 60% were reached in person. Teachers appear to be contacting female students slightly more than the male students. Children in the poorest quintile and in rural areas were contacted less than others (Figure 4).

Furthermore, in 68% of the cases, no one within the household, nor any nonfamily nonteacher, was able to help the children with their studies in a typical week. Among all students surveyed, approximately half of them (49%) were not supported by a teacher or household member in a typical week. This lack of support was more pronounced for poorest (54%) and rural (52%) households. This is serious as regular follow-up is key for distance or remote learning to have a positive impact on learning.

Finding 6: Most students continued their learning activities during the pandemic, but the time spent on organized schooling with instructors had significantly decreased.

Figure 4: Share of Students Not Contacted by a Teacher in the Previous Month (%)
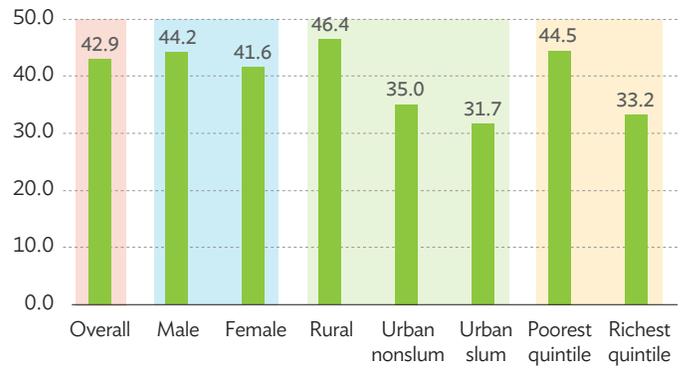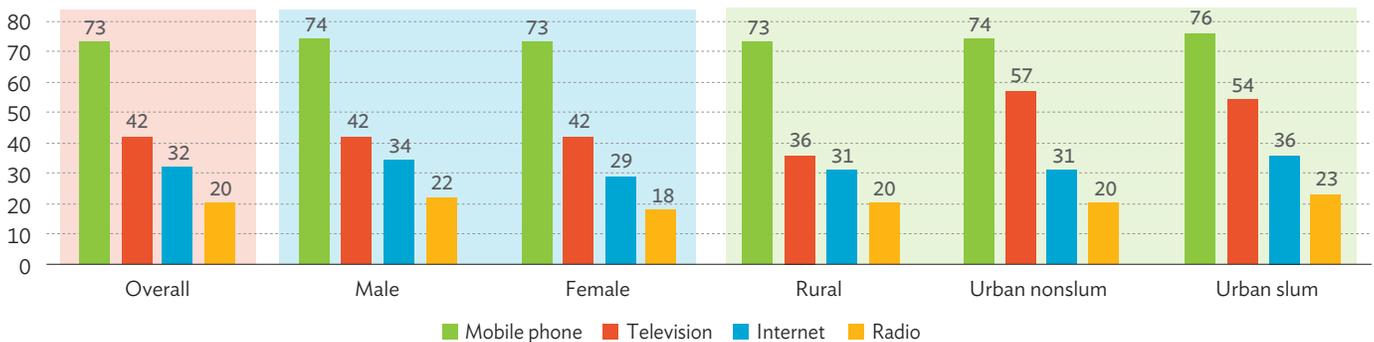
Source: Asian Development Bank estimates based on August 2021 survey.

Students have lost most of their schooling time, but approximately 69% could still continue some schooling on a typical day thanks to remote learning options, such as TV broadcasting (22%), Google Meet classes (10%), and paper-based materials (23%). Contact hours were at least 4.5 hours per day before the pandemic, but dropped to only 19 minutes a day by August 2020 before recovering to 1.6 hours by August 2021. The gender gap in schooling time is slightly favoring males. Interestingly, although students in poorer households spend less time than the richer ones on remote schooling around August 2020, this was reversed by August 2021. This suggests effective efforts by government in addressing the unequal access to virtual learning devices.

Encouragingly, students have mostly maintained their time studying at home, outside of schooling time. Before the school closures, students reported spending an average of 2.6 hours per day studying at home. By August 2020, they were spending 2.3 hours studying at home, but it had increased to 3.0 hours by August 2021, among which 0.3 hours was for studying using

Figure 3: Willingness to Study Using Various e-Learning Tools (%)

Source: Asian Development Bank estimates based on August 2020 survey.

7   M. C. Cinches et al. 2017. Student Engagement: Defining Teacher Effectiveness and Teacher Engagement. *Journal of Institutional Research South East Asia.* 15 (1). pp. 5–19.
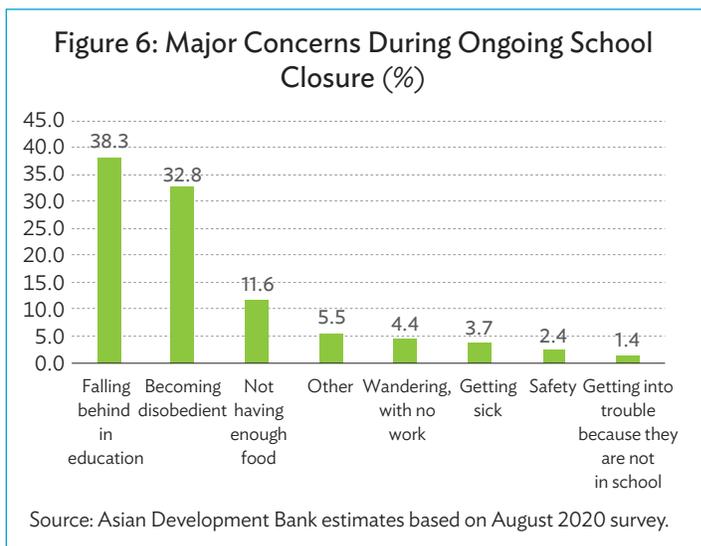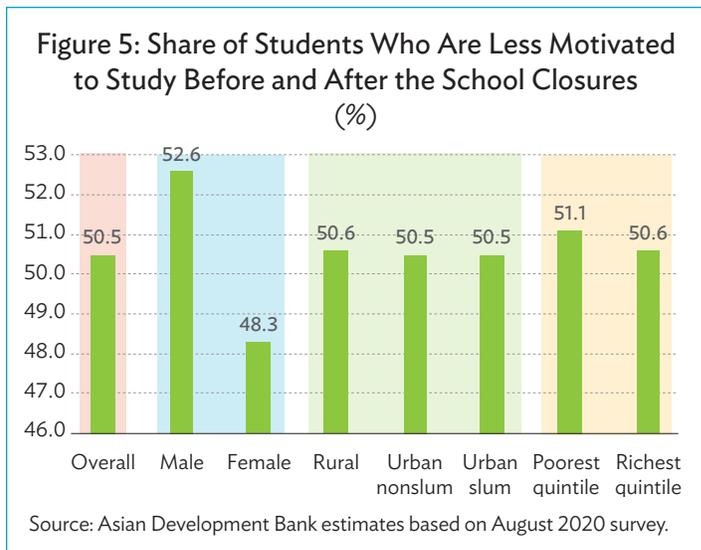
e-learning materials. This learning time at home slightly favors students in richer households.

With the reduction in learning time, students spent more time on physical playing (193% increase), whereas screen time for recreation has been reduced by 56%. They also did more nonpaid tasks (176%), i.e., domestic and other tasks at the family farm, family business, etc. Although the age is below legal working age, a small percentage of students also reported doing paid work, which remained at similar level as before the pandemic.

Finding 7: The decline in children's morale to study was widespread during the pandemic, and the top concern of the respondents was learning loss.

When the respondents were asked about their child's desire or motivation to study, 20% said that their motivation levels were low or very low as of August 2021 (similar to the survey result in August 2020), while this percentage was 5% in December 2019. The percentage of children who were highly motivated decreased from 56% before the pandemic to 27% (down from 37% in August 2020). More than half said that their child is less motivated to study now compared to when school was open, with male children more likely than female children to be less motivated to study (Figure 5). This reduction in motivation is similar across income groups.

With the reduced morale and shorter learning time (Finding 6), learning loss has become the top concern for households. When asked about the matter that most concerned them, 38% of the respondents (93% of the respondents are parents) point to their children lagging in studies (Figure 6). Families in lower income groups appeared to be slightly more concerned about their children lagging behind in studies (41%), presumably because they had fewer opportunities for remote and e-learning. Being disobedient and not having enough food were mentioned by a substantial 33% and 12% of the respondents, respectively. Surprisingly, getting sick was mentioned by only about 4%.

Figure 5: Share of Students Who Are Less Motivated to Study Before and After the School Closures (%)

Source: Asian Development Bank estimates based on August 2020 survey.

Figure 6: Major Concerns During Ongoing School Closure (%)

Source: Asian Development Bank estimates based on August 2020 survey.

Table 3: Hours Children Spent on Different Activities in a Typical Weekday

Variable	Before School Closure, 2019: Overall	During School Closure, 2021: Overall	Before School Closure, 2019: Female	During School Closure, 2021: Female	Before School Closure, 2019: Poorest	During School Closure, 2021: Poorest	Before School Closure, 2019: Richest	During School Closure, 2021: Richest
Schooling (either physical or virtual)	4.5–5.75[a]	1.62	4.5–5.75	1.55	4.5–5.75	2.02	4.5–5.75	1.23
Study at home (excluding physical or virtual schooling)	2.63	3.04	2.54	3.07	2.68	2.80	2.48	3.28
Screen time for recreation	0.39	0.17	0.35	0.16	0.28	0.13	0.55	0.25
Leisure (playing, meeting friends)	1.34	2.58	1.24	2.42	1.46	2.68	1.18	2.33
Domestic and other tasks	0.46	1.27	0.47	1.43	0.46	1.30	0.37	1.26
Paid work or activities outside of household	0.04	0.03	0.05	0.01	0.02	0.03	0.05	0.02
Total	**10.86**	**8.70**	**10.65**	**8.65**	**10.9**	**8.96**	**10.63**	**8.37**

[a] In December 2017, total contact hours for grades 1 and 2 is 4.5 hours per day, while it is 5.75 hours for grades 3–5.

Note: Asian Development Bank estimates based on August 2021 survey.

Source: Pathmark and Grontmij. 2017. Conducting Study on Teacher-Student Contact Hours under PEDP-3 2761- BAN (SF). Dhaka.

Finding 8: Expanding financial support to maintain learning activities after schools reopen is needed.

The average educational expenditure was Tk4,770 for the surveyed children over 12 months before August 2021, down from Tk7,805 over 12 months before COVID-19. When asked whether the household received support from the government, 50% of the household had received a stipend from the government from September 2020 to August 2021. On average, the stipend per household was Tk811, as presented in Figure 7. Households with female students received 9% more stipend than those with male students. Those in rural areas received higher stipends than those in urban areas. The stipends are generally higher for households in lower-income quintiles, although it seems that some households with higher income before the pandemic received higher stipends.

The survey in August 2020 also shows that when schools reopen, 13.4% of children are expected to face financial difficulties in attending school.[8] To address these constraints, they expect to require, on average, about Tk3,277, or $39 (the median value was Tk2,000 or $24) of monthly financial support to manage those problems.

## RECOMMENDATIONS FOR REOPENING AND RECOVERY STRATEGIES

Based on the findings, the following are recommended measures or approaches for reopening and recovery of primary education in Bangladesh:

- **Prioritize interventions for mitigating learning loss.** The surveys suggest high learning loss during school lockdowns, as well as slow learning recovery due to possible high dropout rate and low attendance rate after the school reopens. The existing interventions for primary education are likely to be insufficient to address the massive learning loss. Holistic new interventions

are necessary to revert the trend in learning loss and restore Bangladesh's human capital growth back on track.

- **Focus on essential learning competencies for learning recovery.** Learning hours lost are significant as a result of school closures, and it is obvious students are not acquiring competencies they should learn in their grades. Possible actions by the government for consideration are to adjust the curriculum to prioritize essential learning competencies and provide remedial and bridging programs to students. With the shift in learning modalities, appropriate methods of student assessment will have to be carefully considered to evaluate learning outcomes.

- **Scale up education technology (EdTech) using mobile phones to support school reopening.** In the long term, it is clear that mainstreaming EdTech solutions is necessary for the resilience of the education system. In the short term, even after schools reopen with physical teaching, remote and e-learning can still play an important role, especially for those with irregular attendance. Learning using mobile phones is the most well-received approach for e-learning according to our survey, and it covers the majority of the population. Hence, enabling teaching through mobile phones and providing free data packages will be effective in helping students for self-learning even after schools reopen. Lessons from a number of developing countries demonstrate the benefits of using mobile learning technologies in teachers' training, while in India, mobile tracking of teachers helped reduce teacher absenteeism.[9] Low-tech and no-tech solutions that have proven effective in other countries (e.g., short message service and phone-based tutoring, solar powered radio, workbooks, and other distance learning packages) may also be considered.[10]

- **Strengthen support to teachers and community.** Despite efforts by teachers and communities to reach out to students, a significant share of students did not receive any support for their self-learning during the pandemic. To address this

Figure 7: Average Stipend Received in 2021 by Different Groups (Taka)
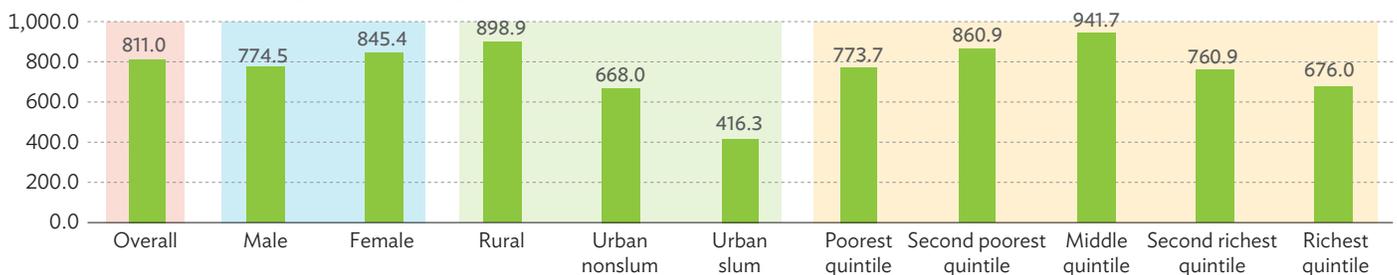
Source: Asian Development Bank estimates based on August 2021 survey.

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[8]   In total, 18% expected to face either financial or health-related issues going back to school physically.

[9]   United Nations Educational, Scientific and Cultural Organization (UNESCO). 2017. *Supporting Teachers with Mobile Technology—Lessons from UNESCO Projects in Mexico, Nigeria, Pakistan, and Senegal.* Paris: United Nations Educational, Scientific and Cultural Organization.

[10] ADB is providing technical assistance (TA) support on solar-powered transistor radios for last-mile school learners in the Philippines for them to continue learning. See ADB. *EdTech Solutions for Last Mile Schools in COVID-19.* Manila: ADB (TA 6670).

challenge, it is crucial to invest in developing the capacity of teachers and communities to support the learning of children. A special in-service training for teachers would be needed for them to be able to face the learning difficulties and socioemotional support needed by the students. Digital platforms for virtual coaching and development of teachers are urgently needed given the challenges of traditional teacher development approaches. Teachers could be provided targeted and individualized support and the frequency of interactions can be substantially increased.[11]

- **Targeted approach to support students with low motivation.** With more than 50% of students having lost motivation for learning during the pandemic, it is critical to take immediate and strong measures to reestablish or strengthen their motivation for learning. Encouraging and incentivizing teachers to regularly engage with children and ensuring that their academic needs are addressed are steps that need to be urgently undertaken. Bridging programs through digital learning may also help reignite students' interest and keep children learning. One good example is the Learning Passport, a joint program of UNICEF, Microsoft, and the University of Cambridge, which provides a virtual library of textbooks and supporting materials, including songs and videos.[12]

- **Expand financial support.** An important factor affecting the school attendance and learning activities of primary students is the financial impact of COVID-19 on household income. Though the majority of students are willing to go back to school, a significant portion may not attend school regularly due to financial constraints. Even for students who are receiving stipends, the amount was inadequate to cover students' needs. Hence, financial support through cash transfers or supplemental nutrition programs for primary students may be considered, especially for at-risk students, conditional on their regular school attendance.

- **Update the list of key indicators for monitoring school reopening.** Given the new challenges from the pandemic, it is recommended to carefully review and update the existing performance indicators for the education sector to ensure inclusive and effective education recovery. For example, school attendance could be considered as a key indicator to monitor after school reopening, in order to address the high risk of reduced attendance and persistent learning loss. Administrative data may serve as early warning signals to flag students most likely to drop out.[13] Another potential indicator is the percentage of students who have received regular support from teachers.

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[11] ADB is providing TA support for establishing digital platforms for teacher development in Bangladesh with capacity for virtual coaching. See ADB. *Support to Quality Enhancement in Primary Education*. Manila: ADB (TA 9883).
[12] UNICEF. 2020. UNICEF and Microsoft Launch Global Learning Platform to Help Address COVID-19 Education Crisis. 20 April. https://www.unicef.org/press-releases/unicef-and-microsoft-launch-global-learning-platform-help-address-covid-19-education.
[13] M. F. Adelman et al. 2017. Predicting School Dropout with Administrative Data: New Evidence from Guatemala and Honduras. *Policy Research Working Paper Series*. No. 8142. Washington, DC: World Bank.