Where Do We Stand after Almost Two Years of School Closure due to COVID-19: Assessment of Learning of the Primary School Students in Bangladesh

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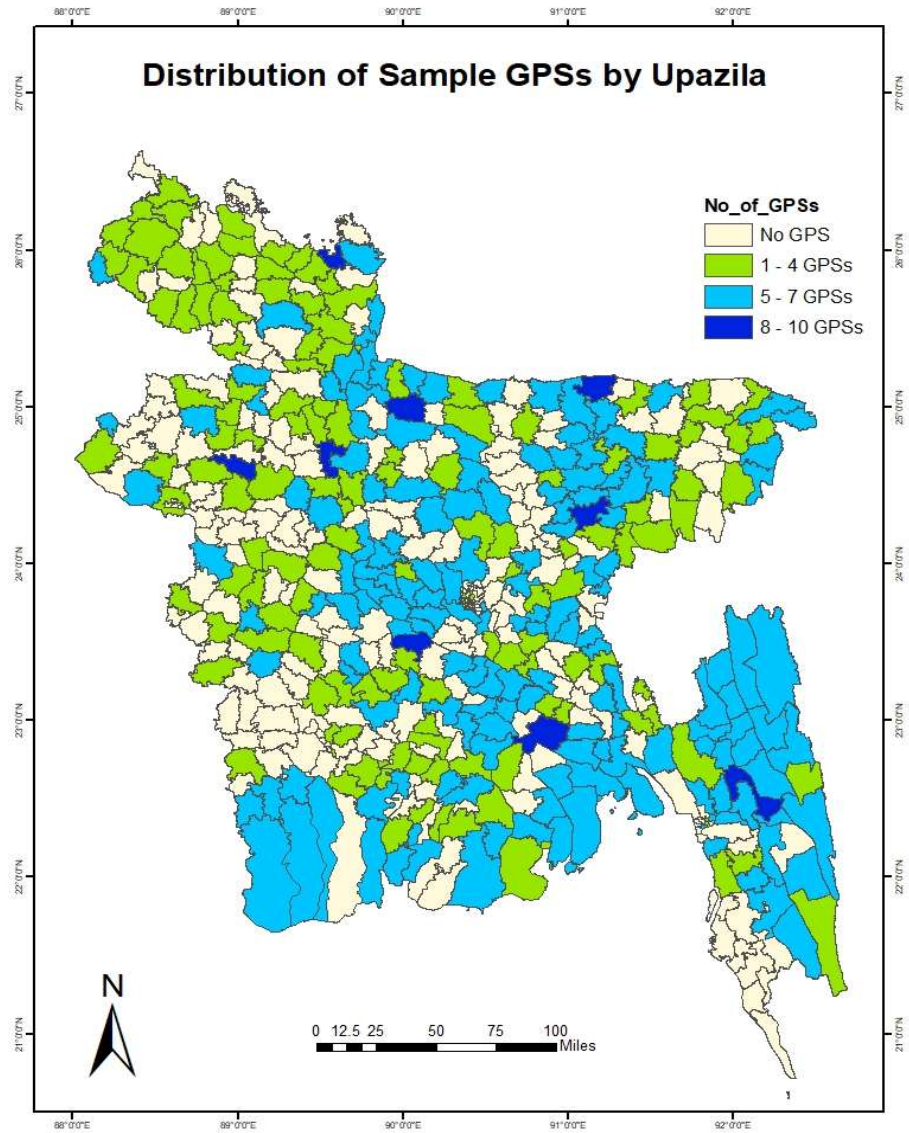
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Objectives of the study

- To know where on the learning trajectory the early-grade students are standing by assessing their learning levels after almost two years of school closure due to Covid-19.

- The assessment result will help the policy makers and other stakeholders make informed decisions for adjusting instruction methods and allocate resources to support learning recovery, if necessary.

Approach

- A learning assessment test (in Bangla and Mathematics) was performed among more than 62,703 students of grades 3 and 4 drawn randomly from 1644 GPSs covering 63 districts and 339 upazilas.

Sample Size

Description	Number	Selection Method
Upazilas covered	339	Pre-selected by the project
Total number of schools selected	1644	Randomly drawn from 20,000 project schools
Grades chosen from each of the schools	2 (Grades 3 and 4)	Pre-selected by the project
Students expected to be selected from each of the grades	20	Random
Total number of students appeared in the assessment test	62,703	Random

Distribution of Sample GPSs by Upazila

No_of_GPSs

- No GPS
- 1 - 4 GPSs
- 5 - 7 GPSs
- 8 - 10 GPSs

N

0 12.5 25   50   75   100
                                    Miles

Distribution of schools by location and number of students

GPS by location	No. of Schools	
	Number	Percentage
Situated in Rural areas	1190	72.4
Situated in Urban areas	120	7.3
Situated in Char/ Coastal areas	184	11.2
Situated in Hilly areas	150	9.1
All	1644	100.0

Number of students	No. of Schools	
	Number	Percentage
<100	359	21.84
101-200	699	42.52
201-400	458	27.86
>400	128	7.79
All	1644	100.00

The difference in enrolment of students before and after COVID (all grades)

	Average number of Students (Grades 1 to 5) Before Covid-19 (February 2020)	Average number of Students (Grades 1 to 5) After Covid-19 (February 2022)	Difference
GPS in Rural areas	195.64	180.13	-7.9
GPS in Urban areas	477.39	461.60	-3.3
GPS in Char/ Coastal areas	235.29	193.33	-17.8
GPS in Hilly areas	204.85	188.85	-7.8
All	221.48	202.22	-8.7

Rates of Attendance

Location of GPSs	Average number of enrolled students in all classes	Average number of students present on the day of the assessment test	Rates of attendance (%)
GPS in Rural areas	180	135	75.0
GPS in Urban areas	452	315	69.7
GPS in Char/ Coastal areas	193	135	69.9
GPS in Hilly areas	189	148	78.3
All	**203**	**149**	**73.4**

Grade	Average number of enrolled students in the class	Average number of students present on the day of the assessment test	Rates of attendance (%)
Class 1	37	28	75.7
Class 2	41	31	75.6
Class 3	42	29	69.0
Class 4	42	30	71.4
Class 5	41	31	75.6

Design of Instruments for the Assessment

- Ten similar sets of question papers of an equivalent standard were developed

- The items of the questionnaires were in accordance with the grade-level essential learning contents

- The instruments contained the following modules:

    - Eight questions for Bangla

    - Eight questions for Mathematics

    - Assessment sheets

    - School characteristics and socio-economic questions

- Carried out the assessment test through "*Face-to-face engagement*" with the selected students in school premise.

Data Analysis Procedure

Following the methods used in the ASERs and NSAs, we have analyzed the test results in the following three (3) ways:

(1) Individual question-based performance analysis

(2) Content domain-based performance analysis

(3) Performance analysis based on composite scores

(1) Individual question-based performance analysis

- In the assessment test, there were eight (8) questions for each subject- Bangla and Mathematics

- Each question contains one or more items

- The principle that was followed includes:

Component	Skill	Demonstrated by
What question to be asked?	**What skill will it assess?**	**How will it be assessed?**

- For example, the first item of the Bangla test for the third graders asks them to identify 3 letters of the Bangla alphabet. The frequency distribution and gender-wise distributional competency are then calculated. This helps us understand the basic questions like, how many students are familiar with letters or how many cannot read even a letter.

Performance in Bangla for Grade 3 (Identifying letters and words)

Reading letters	Number (%) of Students		
	Boys	Girl	All
Could not read a letter	586 (4.2)	479 (2.8)	1065 (3.4)
Could read one letter out of 3	1375 (9.9)	1371 (8.0)	2746 (8.8)
Could read two letters out of 3	5284 (38.0)	6414 (37.4)	11700 (37.7)
Could read all three letters (including a complex letter)	6652 (47.9)	8891 (51.8)	15547 (50.1)

Reading words	Number (%) of Students		
	Boys	Girl	All
Could not read a word	2,280 (16.4)	2,113 (12.3)	4,393 (14.1)
Could read one word out of 3	1,948 (14.0)	2,198 (12.8)	4,146 (13.4)
Could read two words out of 3	3,382 (24.3)	4,265 (24.9)	7,649 (24.6)
Could read all three words (including a word with a complex letter)	6,287 (45.2)	8,579 (50.0)	14,870 (47.9)

Performance in Bangla for Grade 4 (Identifying simple/difficult words)

Description	Number (%) of Students		
	Boys	Girl	All
Could not read a word	1,174 (8.5)	1,043 (5.9)	2,217 (7.0)
Could read one word out of 3	1,529 (11.1)	1,637 (9.2)	3,168 (10.0)
Could read two words out of 3	3,228 (23.3)	3,889 (21.8)	7,118 (22.5)
Could read all three words (including a word with a complex letter)	7,905 (57.1)	11,237 (63.1)	19,142 (60.5)

Description	Number (%) of Students		
	Boys	Girl	All
Could not read a word with difficult spelling	3,006 (21.7)	3,118 (17.5)	6,125 (19.4)
Could read one word with difficult spelling out of 3	2,433 (17.6)	2,958 (16.6)	5,393 (17.0)
Could read two words with difficult spelling out of 3	3,502 (25.3)	4,644 (26.1)	8,146 (25.7)
Could read all three words with difficult spelling	4,895 (35.4)	7,086 (39.8)	11,981 (37.9)

Reading a Text (Grade 3 and Grade 4)

Description	N (%) of Students in grade 3			N (%) of Students in grade 4		
	Boys	Girl	All	Boys	Girl	All
Could fluently read a text making proper use of punctuation	2,920 (21.0)	4,492 (26.2)	7,414 (23.9)	3,728 (26.9)	5,834 (32.8)	9,562 (30.2)
Could read a text but fumbled and read without making proper use of punctuation	5,335 (38.4)	6,909 (40.3)	12,247 (39.4)	5,407 (39.1)	7,116 (40.0)	12,523 (39.6)
Could not read the text	5,642 (40.6)	5,754 (33.5)	11,397 (36.7)	4,701 (34.0)	4,856 (27.3)	9,560 (30.2)

Comparison of Fundamental Learning Skills between grades 3 and 4

Items	Students in Grade 3(%)	Students in Grade 4 (%)
Read all three letters (including a complex letter)	50.1	███████
Read all three words (including a word with a complex letter)	47.9	60.5
Read all three words (comprising of difficult spelling)	███████	37.9
Make a meaningful sentence with the given word	36.0	45.6
Fluently read a text making proper use of punctuation	23.9	30.2
Correctly answered a direct question based on the text	51.2	58.2
Correctly answered an indirect question based on the text	43.6	47.5
Write the answer to a question based on the text correctly	36.5	42.4
Identify the object shown in the image and write the name of the object	57.7	███████
Describing an image by writing a sentence	███████	36.7

Performance in Mathematics (Grade 3)

Description	N (%) of Students in grade 3		
	Boys	Girl	All
Could not identify any of the numbers	1,655 (11.9)	2,429 (14.2)	4,084 (13.2)
Could identify one number out of 3	1,452 (10.5)	2,151 (12.5)	3,603 (11.6)
Could identify two numbers out of 3	2,577 (18.5)	3,391 (19.8)	5,970 (19.2)
Could identify all 3 numbers	8,213 (59.1)	9,184 (53.5)	17,401 (56.0)

Performing Addition		N (%) of Students in grade 3		
		Boys	Girl	All
A	Answered correctly	11,402 (82.1)	13,915 (81.1)	25,323 (81.5)
	Could not answer correctly	1,273 (9.2)	1,671 (9.7)	2,944 (9.5)
	Did not attempt to answer	1,222 (8.8)	1,569 (9.2)	2,791 (9.0)
B	Answered correctly	8,626 (62.1)	10,059 (58.6)	18,690 (60.2)
	Could not answer correctly	3,512 (25.3)	4,730 (27.6)	8,243 (26.5)
	Did not attempt to answer	1,759 (12.7)	2,366 (13.8)	4,125 (13.3)

Performance in Mathematics (Grade 3)

Performing Multiplication		N (%) of Students in Grade 3		
		Boys	Girl	All
A	Answered correctly	3,227 (23.2)	3,395 (19.8)	6,625 (21.3)
	Could not answer correctly	1,918 (13.8)	2,094 (12.2)	4,013 (12.9)
	Did not attempt to answer	8,752 (63.0)	11,666 (68.0)	20,420 (65.8)
B	Answered correctly	3,912 (28.2)	3,806 (22.2)	7,721 (24.9)
	Could not answer correctly	1,102 (7.9)	1,349 (7.9)	2,452 (7.9)
	Did not attempt to answer	8,883 (63.9)	12,000 (70.0)	20,885 (67.3)

Performing Division	N (%) of Students in grade 3		
	Boys	Girl	All
Answered correctly	3,288 23.7	3,627 21.1	6,917 22.3
Could not answer correctly	2,582 18.6	3,055 17.8	5,637 18.2
Did not attempt to answer	8,027 57.8	10,473 61.1	18,504 59.6

Performance in Mathematics (Grade 4)

Description	N (%) of Students in grade 4		
	Boys	Girl	All
Could not identify any of the numbers	1,883 (13.6)	3,210 (18.0)	5,096 (16.1)
Could identify one number out of 3	2,694 (19.5)	4,085 (22.9)	6,779 (21.4)
Could identify two numbers out of 3	2,969 (21.5)	3,865 (21.7)	6,834 (21.6)
Could identify all numbers	6,290 (45.5)	6,646 (37.3)	12,936 (40.9)

Performing Addition		N (%) of Students in grade 4		
		Boys	Girl	All
A	Answered correctly (how to solve the problem)	9,604 (69.4)	11,781 (66.2)	21,386 (67.6)
	Could not answer correctly	717 (5.2)	970 (5.5)	1,687 (5.3)
	Did not attempt to answer	3,515 (25.4)	5,055 (28.4)	8,572 (27.1)
B	Answered correctly	8,756 (63.3)	10,657 (59.9)	19,414 (61.4)
	Could not answer correctly	1,093 (7.9)	1,400 (7.9)	2,493 (7.9)
	Did not attempt to answer	3,987 (28.8)	5,749 (32.3)	9,738 (30.8)

Performance in Mathematics (Grade 4)

Performing Multiplication		N (%) of Students in Grade 4		
		Boys	Girl	All
A	Answered correctly	9,769 (70.6)	11,954 67.1	21,724 (68.7)
	Could not answer correctly	1,709 (12.4)	2,372 (13.3)	4,081 (12.9)
	Did not attempt to answer	2,358 (17.0)	3,480 (19.5)	5,840 (18.5)
B	Answered correctly	6,865 (49.6)	7,944 (44.6)	14,809 (46.8)
	Could not answer correctly	3,494 (25.3)	4,667 (26.2)	8,162 (25.8)
	Did not attempt to answer	3,477 (25.1)	5,195 (29.2)	8,674 (27.4)

| Performing Division	N (%) of Students in Grade 4		
	Boys	Girl	All
Answered correctly	3,165 (22.9)	3,437 (19.3)	6,602 (20.9)
Could not answer correctly	3,083 (22.3)	3,764 (21.1)	6,847 (21.6)
Did not attempt to answer	7,588 (54.8)	10,605 (59.6)	18,196 (57.5)

Comparing Numbers (Grade 3 and Grade 4)

Description	N (%) of Students in Grade 3			N (%) of Students in Grade 4		
	Boys	Girl	All	Boys	Girl	All
Answered correctly	10,786 (77.6)	12,572 (73.3)	23,364 (75.2)	11,578 (83.7)	14,285 (80.2)	25,863 (81.7)
Could not answer correctly	2,311 (16.6)	3,393 (19.8)	5,704 (18.4)	1,695 (12.3)	2,702 (15.2)	4,399 (13.9)
Did not attempt to answer	800 (5.8)	1,190 (6.9)	1,990 (6.4)	563 (4.1)	819 (4.6)	1,383 (4.4)

Comparison of Fundamental Learning Skills in Numeracy: Grades 3 and 4

Items	Student in Grade 3 (%)	Students in Grade 4 (%)
Could identify all 3 numbers	56.0	40.9
Expressing words in numbers	39.9	██████████
Putting place value on numbers	██████████	37.0
Comparing numbers	65.9	74.4
Addition	70.9	64.5
Subtraction	62.6	29.0
Multiplication	23.1	57.8
Division	22.3	18.6
Identifying shapes	12.7	9.4

(2) Content domain-based performance analysis

- Test scores that are mapped onto performance levels

- All items are classified under one of the four categories defined by the cognitive level

- **Below-basic level: A** student is at the early stages of development as far as the curriculum is concerned

- **Basic level: A** student demonstrates a minimum level of skills with regard to the curriculum learning outcomes

- **Proficient level: A** student works independently with minimum supervision

- **Advanced level: A student** displays mastery of the learning content as prescribed by the curriculum and beyond

Advanced

Proficient
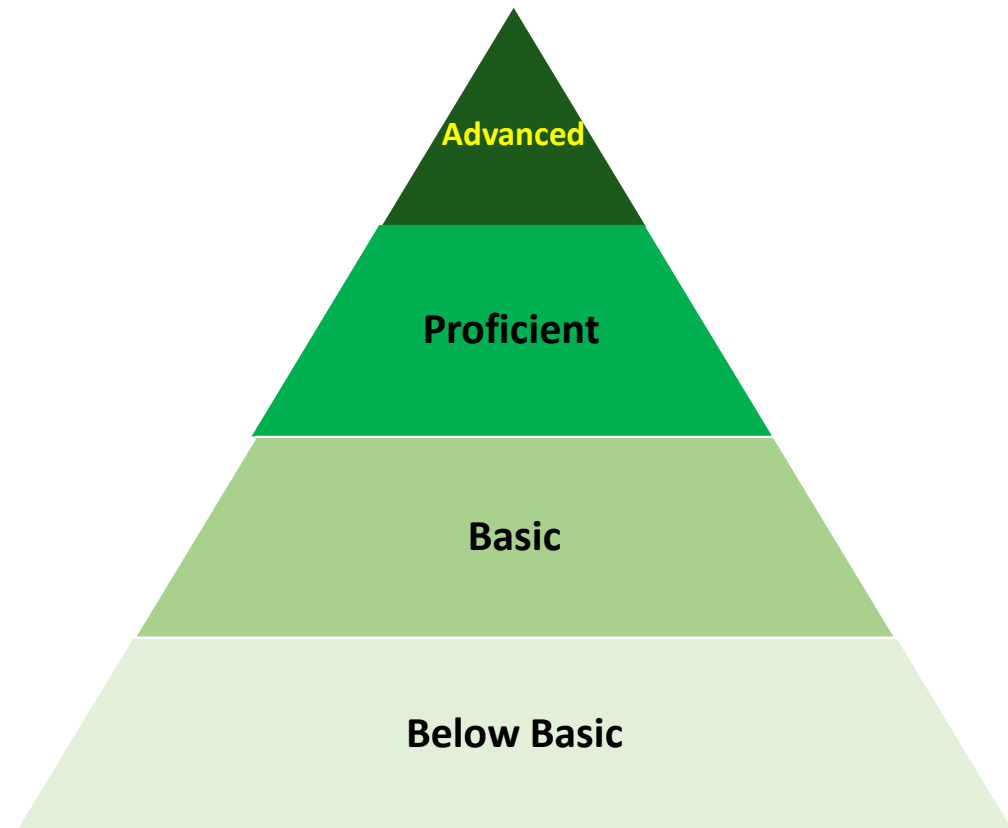
Basic

Below Basic

Content domain-based performance analysis

- The framework determines what test items will fall under which level. For example, the framework for grade 3 Bangla instruments are as follows:

Grade 3 (Bangla)	Question items
BELOW BASIC	Identification of letters
BASIC	Reading words, making a sentence
PROFICIENT	Write a one-word answer
ADVANCED	Reading a text using proper punctuation, answer questions based on the text

- Section cut-off scores are set at 80% of the total score following the ASER.

- For example, in Grade 3 Bangla the very first category is to identify 'letters' which have 3 items and a total score is 6. If a student can correctly read all 3 letters, then the student achieves a total number of 6, for 2 correct letters the student gets 4, for 1 correct letter the student gets 2, and finally if the student cannot read any letter correctly, the student gets 0. At this level, 80 percent of the total score of 6 is 4.8. This can only be achieved when the student correctly gets all three letters.

Content domain-based performance of Grade 3 and Grade 4 (Bangla)

Grade- 3 (Bangla)	Below Basic		Basic		Proficient		Advanced	
	N	%	N	%	N	%	N	%
	(Obtained minimum 4.8 out of 6)		(Obtained minimum 19.2 out of 24)		(Obtained minimum 32 out of 40)		(Obtain minimum 24 out of 30)	
Boys	6652	47.9	4588	33.0	3910	28.1	2510	18.1
Girls	8891	51.8	6068	35.4	5746	33.5	3889	22.7
Total	15547	50.1	10658	34.3	9659	31.1	6401	20.6

Grade- 4 (Bangla)	Below Basic		Basic		Proficient		Advanced	
	N	%	N	%	N	%	N	%
	(Obtained minimum 6 out of 8)		(Obtained minimum 19.2 out of 24)		(Obtain minimum 28.8 out of 36)		(Obtain minimum 24 out of 30)	
Boys	7905	57.1	5216	37.7	3315	24.0	3099	22.4
Girls	11237	63.1	7327	41.1	4835	27.2	4890	27.5
Total	19142	60.5	12543	39.6	8150	25.8	7989	25.2

Content domain-based performance of Grade 3 and Grade 4 (Mathematics)

Grade-3 (Math)	Below Basic		Basic		Proficient		Advanced	
	N	%	N	%	N	%	N	%
	(Obtained minimum 4.8 out of 6)		(Obtained minimum 16 out of 20)		(Obtained minimum 37.6 out of 47)		(Obtain minimum 21.6 out of 27)	
Boys	8213	59.1	4577	32.9	3396	24.4	1205	8.67
Girls	9184	53.5	5086	29.6	3410	19.9	1486	8.66
Total	17401	56.0	9666	31.1	6809	21.9	2692	8.67

Grade-4 (Math)	Below Basic		Basic		Proficient		Advanced	
	N	%	N	%	N	%	N	%
	(Obtained minimum 4.8 out of 6)		(Obtained minimum 15.2 out of 19)		(Obtained minimum 32 out of 40)		(Obtain minimum 28 out of 35)	
Boys	6290	45.5	5259	38.0	3292	23.8	728	5.3
Girls	6646	37.3	6159	34.6	3723	20.9	850	4.8
Total	12936	40.9	11418	36.1	7015	22.2	1578	5.0

Comparison between MICS and BIDS Study on Selected Indicators: Indication of Learning Loss

Grade-4	Can read 90% word in a story (MICS)	Can read all three words (BIDS Study)	Foundational reading skills (MICS)	Satisfying foundational reading skills (BIDS)
Reading	65.0	30.0	44.8	25.2
Numeracy	64.5	40.9	24.6	5.0

(3) Performance Analysis based on Composite Scores

- The total range of this score scale is 1 – 100, with selected points anchored to the cut scores of performance levels yielding the following ranges for each performance level
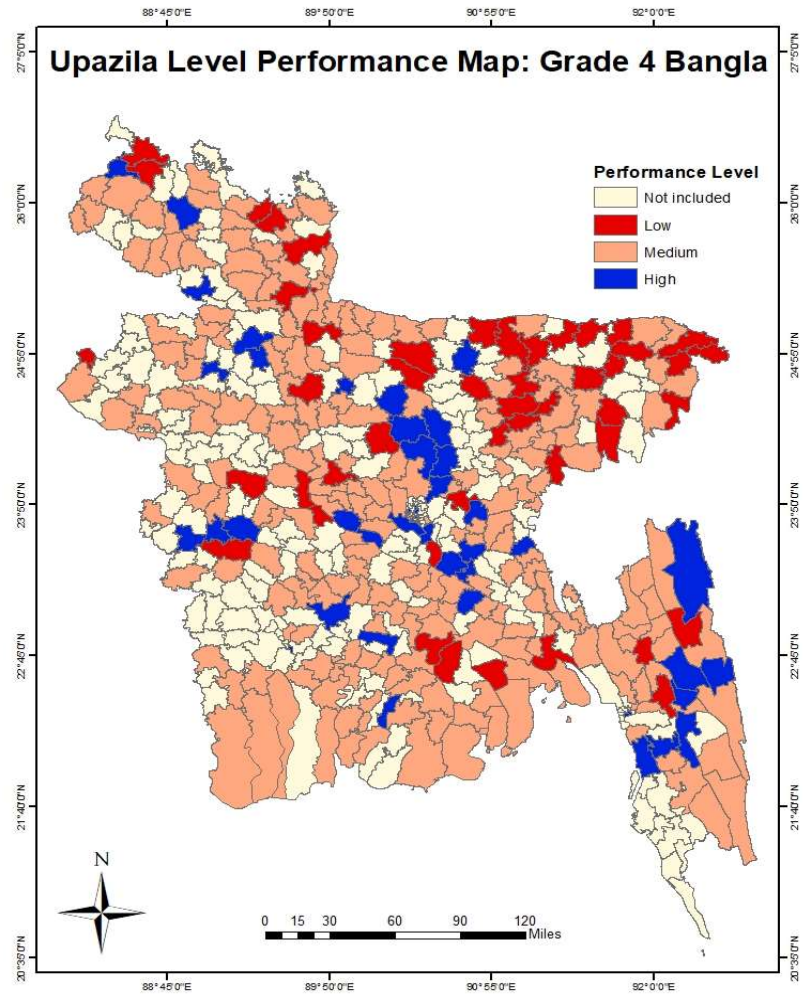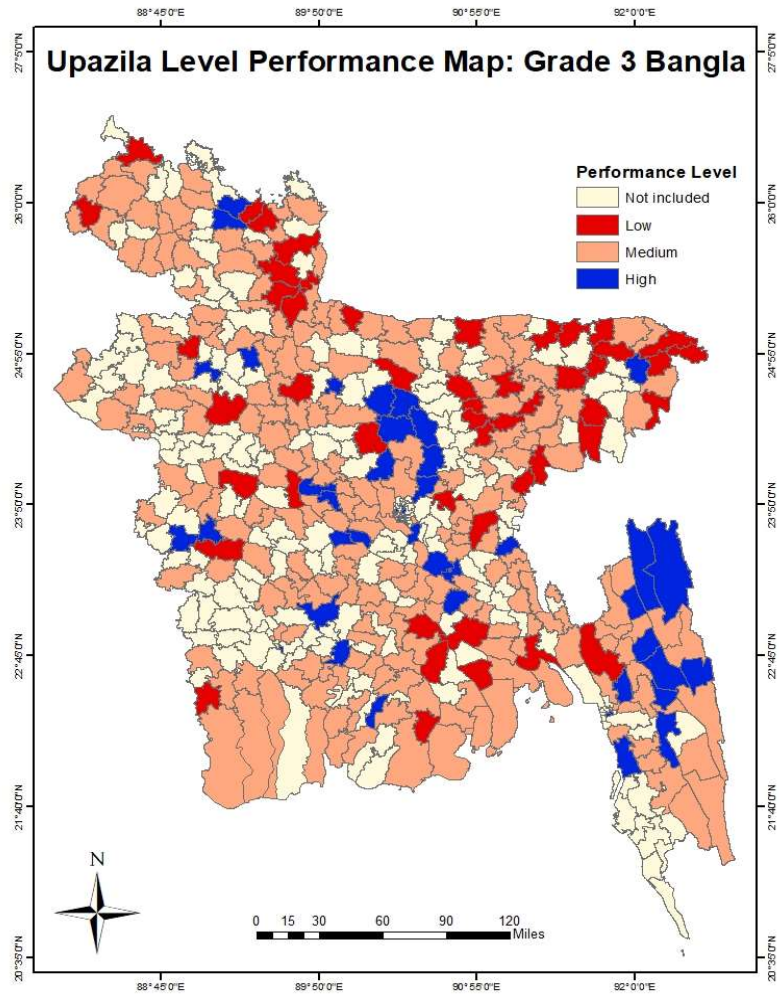
Test	Max. Point	Cut Scores		
		Elementary	Intermediate	Advanced
Bangla Grade 3	100	Below 45	45-79	80 & above
Math Grade 3	100	Below 40	40-74	75 & above
Bangla Grade 4	100	Below 45	45-79	80 & above
Math Grade 4	100	Below 40	40-74	75 & above

Composite Scores in Bangla by Grades

Description	Elementary (below 45)		Intermediate (45-79)		Advanced (80 and above)	
	N	%	N	%	N	%
Grade 3 (Bangla)						
Boys	6346	45.7	3921	28.2	3630	26.1
Girls	6678	38.9	5127	29.9	5350	31.2
Total	13025	41.9	9051	29.1	8982	28.9
Grade 4 (Bangla)						
Boys	6190	44.7	3896	28.2	3750	27.1
Girls	6993	39.3	5321	29.9	5492	30.8
Total	13186	41.7	9217	29.1	9242	29.2

Composite Scores in Mathematics by Grades

Description	Elementary (below 40)		Intermediate (40-74)		Advanced (75 and above)	
	N	%	N	%	N	%
Grade 3 (Mathematics)						
Boys	6196	44.6	5310	38.2	2391	17.2
Girls	8615	50.2	6001	35	2539	14.8
Total	14812	47.7	11314	36.4	4932	15.9
Grade 4 (Mathematics)						
Boys	6542	47.3	5062	36.6	2232	16.1
Girls	9308	52.3	6088	34.2	2410	13.5
Total	15853	50.1	11150	35.2	4642	14.7

Upazila Level Performance Map: Grade 3 Bangla

Performance Level
- Not included
- Low
- Medium
- High

Upazila Level Performance Map: Grade 4 Bangla

Performance Level
- Not included
- Low
- Medium
- High

Upazila Level Performance Map: Grade 3 Math

Performance Level
- Not included
- Low
- Medium
- High

N

0 15 30   60   90   120
Miles

Upazila Level Performance Map: Grade 4 Math

Performance Level
- Not included
- Low
- Medium
- High

N

0 15 30   60   90   120
Miles
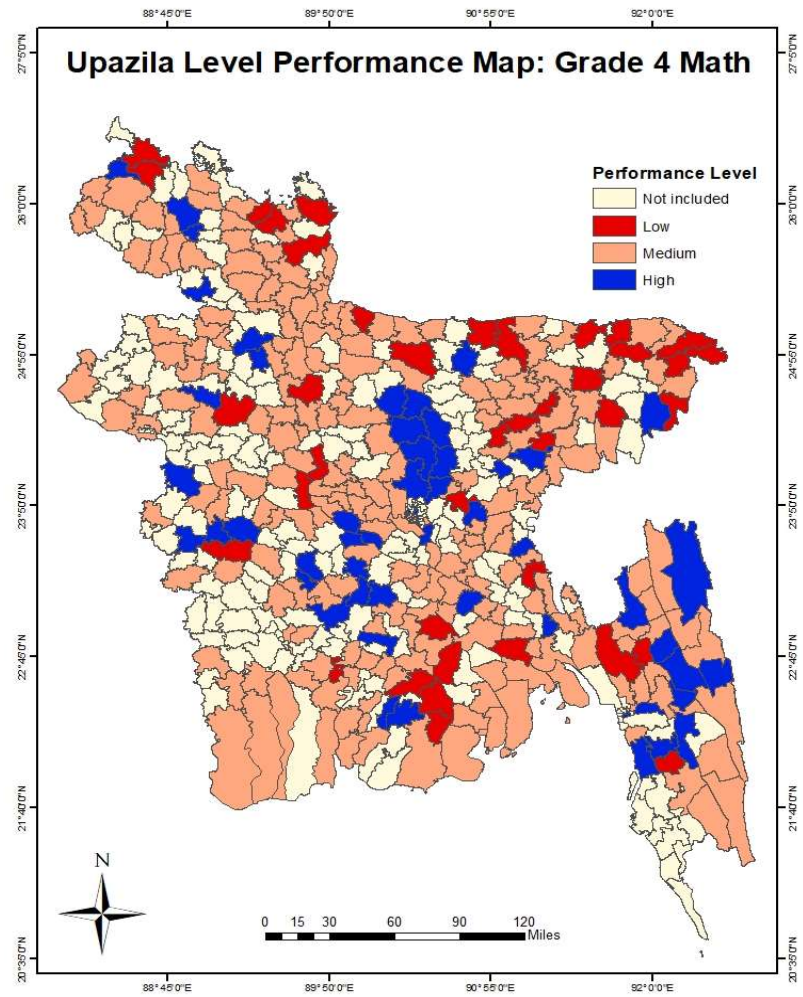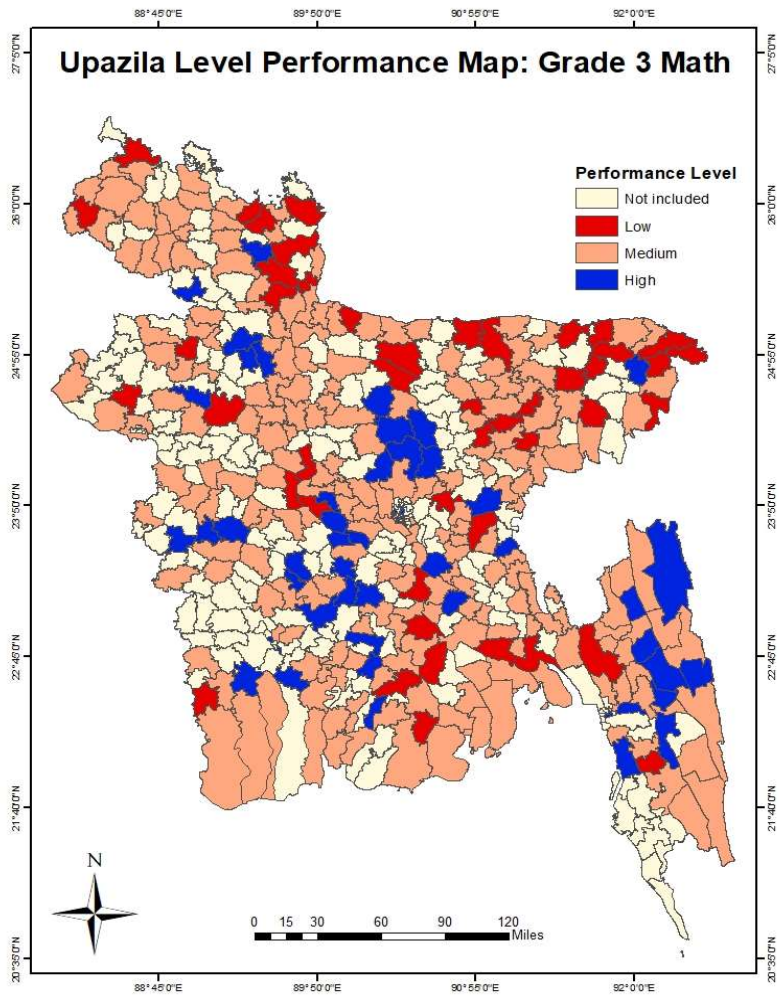
Student's performance (Grade-3) by background characteristics: Distance of the Schools

Distance from Upazila HQ	Bangla		Math	
	Below Basic	Advanced level	Below Basic	Advanced level
Less than 5 km	33.1	38.0	37.8	24.4
6-10 Km	41.3	27.9	47.3	14.9
10 above	45.5	26.1	51.3	13.4

Student's performance (Grade-3) by background characteristics: Mother's Education

Mother's Education	Bangla		Math	
	Below Basic	Advanced level	Below Basic	Advanced level
Cannot read or write/ never went to school	52.5	20.7	56.8	9.3
Below primary	51.6	20.5	58.3	10.1
Below secondary	38.5	30.7	44.8	16.2
Secondary	25.9	42.6	33.2	25.1
Higher secondary and above	12.9	60.4	16.4	43.5

Student's performance (Grade-3) by background characteristics: Household Income

Household Income	Bangla		Math	
	Below Basic	Advanced level	Below Basic	Advanced level
Below 10,A000	52.0	21.2	58.1	10.4
10,000-20,000	40.4	29.4	45.2	16.2
20,001-40,000	26.7	44.2	33.0	27.8
Above 40,000	24.5	50.0	28.4	31.9

Student's performance (Grade-3) by background characteristics: Participation in ECAs

Participation in ECAs	Bangla		Math	
	Below Basic	Advanced level	Below Basic	Advanced level
Participated	37.70	32.6	42.7	18.8
Did not participate	46.7	24.8	53.4	12.6

Summary and Conclusion

- We observe noticeable **learning deficiencies** among the students at the primary level. It is reflected through both Bangla and Mathematics. It is however **more pronounced for Mathematics** than Bangla.

- However, given the fact that the schools were physically closed for almost two years, the **performance of the students**, as observed in the current study**, is not entirely bad.**

- There are differences in performances **between girls and boys**. While girls performed better in Bangla, boys performed better in Mathematics.

- There are also differences in performances among schools located in **different geographic areas**. Schools in urban areas performed better than that of the rural, and schools in chars and coastal areas performed relatively poorly. Schools in the hills however performed better than average rural.

- Other characteristics, like **school characteristics**, distance of the school from upazila head-quarter, and socio-economic characteristics of the students also matter for learning levels of the students.

- There are also substantial differences in students' performance **between different upazilas**.

- It is therefore important to take **appropriate measures** not only to continue better teaching and learning in schools, but also to recover the learning deficiencies due to the closure of school during Covid period.

Implications for Policy

- **Accepting the Reality** and **Communicating the Fact** among All Relevant Stakeholders
- Developing a **Common Understanding** among All Stakeholders
- Developing and Introducing the **Blended Approach**
- Providing **Training to the Teachers and Preparing Them** for Blended and Expedited Teaching-Learning System
- Devising and Adopting the **Targeted Approach** for Hard-to-Reach Areas and Students of the Backward Families
- Introducing a **Dedicated State-Run TV Channel** for Teaching-Learning Only
- Ensuring **Strong Monitoring and Progress Tracking**

Thanks for Kind Attention!!