



Language Use and Literacy
Skills: READ Baseline
Assessment and Situational
Analysis

**Chittagong Hill Tracts,
Bangladesh**

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This synthesis report was written by Jane Leer, in collaboration with Liana Gertsch, Shahana Parvin, and Md. Akter Hossain. Analyses within draw from the *READ Situational analysis in Khagrachari District*, completed in July 2015 by Innovision Consulting Private Limited, and the READ baseline data collected in 2015 by Save the Children (Bangladesh Country Office).

Executive Summary

This report synthesizes data from a baseline survey of primary school students' literacy skills and a situational analysis of learning and language use in the Chittagong Hills Tracts. Together, these findings will inform Save the Children's literacy programming by exploring strengths and weaknesses in literacy development and identifying groups of students who are struggling to read at grade level. Quantitative and qualitative data from both sources reveal that language, socioeconomic status, and the home literacy environment—especially access to reading materials at home—are the main drivers of learning disparities. These challenges are compounded by the dearth of reading materials in indigenous languages, and low levels of parental support for schooling among indigenous families who have come to expect little from an education system that is not inclusive of their language and culture.

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I. Introduction

Bangladesh has made dramatic strides in improving access to basic education, driven by strong government leadership and successful partnerships among government, donors and NGOs. Despite unprecedented gains in educational access, however, the government's National Student Assessment findings in 2011 and 2013 point to weak Bangla reading results in grades 3 and 5. The findings also indicate that reading skills decrease from third grade to fifth grade, suggesting that children fall more and more behind due to a weak foundation. This has a spillover effect for the education system and economy as a whole.

The Government of Bangladesh's (GOB) Third Primary Education Development Program (PEDP III) provides a comprehensive framework to address these challenges. The Reading Enhancement for Advancing Development (READ) project will support these efforts both inside and outside schools walls.

READ is a 4-year collaboration, starting from October 2013, with the Government of Bangladesh, supported by the US Agency for International Development and implemented by Save the Children, to improve early grade reading skill. The project focuses on four areas of intervention: 1) teacher education and continuous professional development; 2) reading assessment; 3) increased availability of reading material, and 4) increased opportunities in the community to read and support to beginning readers by those outside the school walls.

In 2015, READ started working with 45 government primary schools in Khagrachari district in the Chittagong Hill Tracts - a multi-lingual environment. Prior to the intervention, SCI commissioned a situational analysis about language use in schools and communities. Save the Children also conducted a baseline survey of reading skills and students' background that is consistent with READ's baseline in other regions of the country.

This report synthesizes the findings from the situational analysis and the baseline data, with particular attention to how language use at home and in the classroom shapes children's literacy development. These outputs will inform whether SCI will take a customized approach in CHT and, if so, in what way; for what reason.

The remainder of this report is organized as follows: section two describes the data and methods used for the Situational analysis and the baseline assessment. Section three presents the synthesized findings from both analyses, focusing on language use, the quality of children's learning environment at home and in the community, children's baseline reading skills, and the relationship between reading skills and background factors. Finally, section four concludes by describing the programmatic implications resulting from these findings.

II. Methods

This section summarizes the two separate analyses that inform this report: the situational analysis and the baseline reading skills data.

2.1 Situational analysis

The objective of the situational analysis was to understand the learning challenges facing children enrolled in government primary schools in the Chittagong Hill Tracts. Data were

collected in March and April of 2015 in Khagrachari district by Innovision Consulting. Table 1 describes the data and methods of this analysis.

Table 1: Situational analysis: data and methods

Method	Description
Teacher survey	44 teachers from 27 schools. Schools were chosen randomly, stratified by community (Chakma, Marma and Tripura). The survey asked teachers about their knowledge of Bangla, Chakma, Tripura and Marma languages, and the challenges they face in the classroom (mostly having to do with language).
Focus group discussions	9 focus groups (3 from each upzilla). Each focus group included 8 to 10 community members and parents
In-depth interviews	16 total (6 school teachers, 3 school committee members, 3 NGO staff, 1 district education officer, 3 upzilla education officers)
Classroom observation	9 classrooms (3 schools selected randomly from each upzilla)

2.3 READ baseline assessment

Baseline data were collected in May and June of 2015. The purpose of the baseline survey is to understand children’s strengths and weaknesses in literacy development, and to identify groups of students needing additional literacy support in order to read at grade level. In total, the baseline survey includes 2,112 students from grades 1, 2 and 3 from 69 schools in the Khagrachari district. All students were assessed in Bangla. Table 2 describes the literacy measures assessed in the baseline. The content of the assessments for each measure was specific to each grade level.

Table 2: Reading skills assessed

Measure	Description
Letter identification (first and second graders only)	The number of Bangla letters correctly identified (out of 50)
Beginning sound identification (first and second graders only)	The number of similar beginning sounds detected (out of 10 sets of words from grades 1, 2 and 3 textbooks). Each set included 3 words, out of which 2 had a similar beginning sound.
Detecting rhyme (first and second graders only)	The number of ending rhymes detected (out of 10 sets of words from grades 1, 2 and 3 textbooks). Each set included 3 words, of which 2 rhymed.
Single word recognition	The number of words correctly read aloud by the child (out of 20 of the most frequently used Bangla words in grades 1, 2 and 3 textbooks).

Reading	Children are classified as a reader if they can correctly read at least 5 words in reading passage within 30 seconds.
Fluency	The number of words in a reading passage read correctly per minute.
Accuracy	The number of words in a reading passage read correctly (out of the total number of words in the passage).
Reading comprehension	The number of comprehension questions answered correctly out of 10 questions about the reading passage.
Ability to decode pseudo word (third graders only)	The number of nonsense words correctly decoded (out of 20 common Bangla words with the letters rearranged).
Antonym identification (third graders only)	The number of antonyms given (corresponding to 10 words from grade 3 Bangla textbook)
Sentence construction (third graders only)	The number of words (out of 8 words from grade 3 Bangla textbook) appropriately used to make a sentence.

In order to assess key dimensions of equity, the baseline assessment also collected information on students' background (gender, SES, language spoken at home) and home literacy environment (print materials available in the home, home reading habits, and literacy supportive interactions with family members). Appendix A presents summary statistics for the baseline sample.

2.4 Synthesis method

This report uses quantitative data from the baseline survey to present a snapshot of language use among students, teachers and families, the enabling environment surrounding students at home and in the community (access to print, encouragement from parents, etc.), children's baseline reading skills, and the socioeconomic and demographic factors that contribute to reading skills. Qualitative findings from the situational analysis are used to contextualize the results of the baseline assessment by providing a more in-depth analysis of students, teachers' and families' perceptions about the challenges facing students in the Chittagong Hill Tracts.

III. Analysis

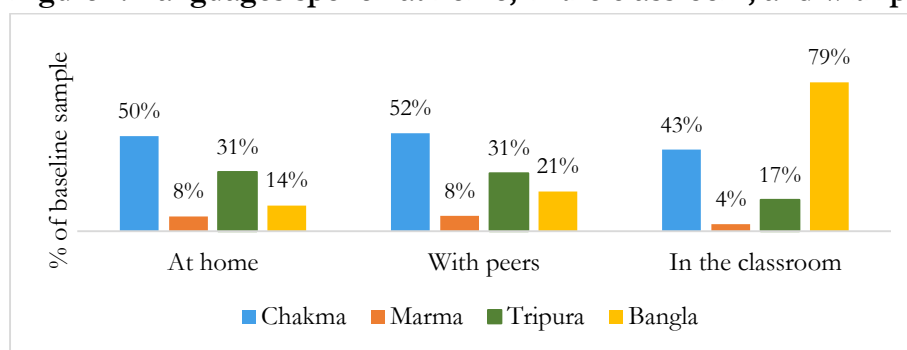
3.1 Language use at home and in schools

Results from the baseline survey demonstrate the diversity of languages spoken among students in the Khagrachari District. As Figure 1 demonstrates, **the languages most commonly spoken in the home are Chakma (50 percent) and Tripura (21 percent), followed by Bangla (14 percent) and Marma (8 percent)**. Most students speak only one language at home, but about 4 percent speak more than one language.

Bangla, the traditional medium of instruction, is the language most commonly spoken in classrooms (79 percent of students report speaking Bangla at school). However, both survey data

and the situational analysis reveal that Chakma, Marma, and Tripura are also frequently spoken in the classroom, as can be seen in figures 1 and 2. **About 40% of students report speaking more than one language in the classroom** (Baseline 2015). Indeed, the situational analysis finds that teachers frequently use multiple languages in the classroom in order to improve students’ understanding of the material (Chakma is the language most frequently used). However, **while most of the teachers interviewed report at least some degree of competency in Chakma, Tripura or Marma, few are fluent in these languages, which limits the extent to which they can facilitate learning among non-Bangla speakers.** This challenge is compounded by the fact that teachers’ language and ethnicity are not considered in teaching assignments. As a result, schools serving indigenous communities frequently end up with teachers who have only limited fluency in languages other than Bangla¹.

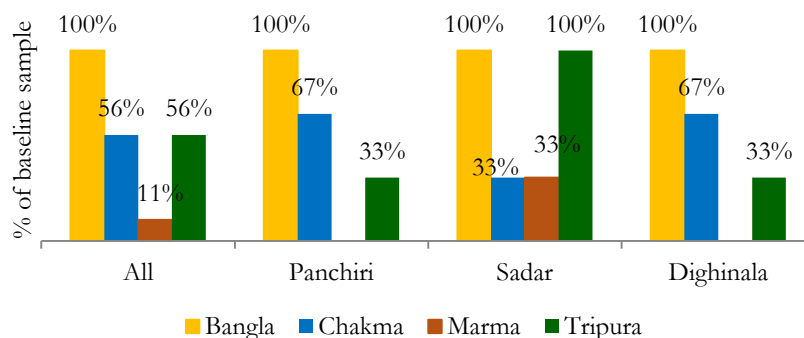
Figure 1: Languages spoken at home, in the classroom, and with peers



Source: Baseline data (2015)

Note: Language questions were multiple response, meaning that students could indicate all of the languages spoken at home, with peers, and in the classroom.

Figure 2: Language use in the classroom, by Upzilla



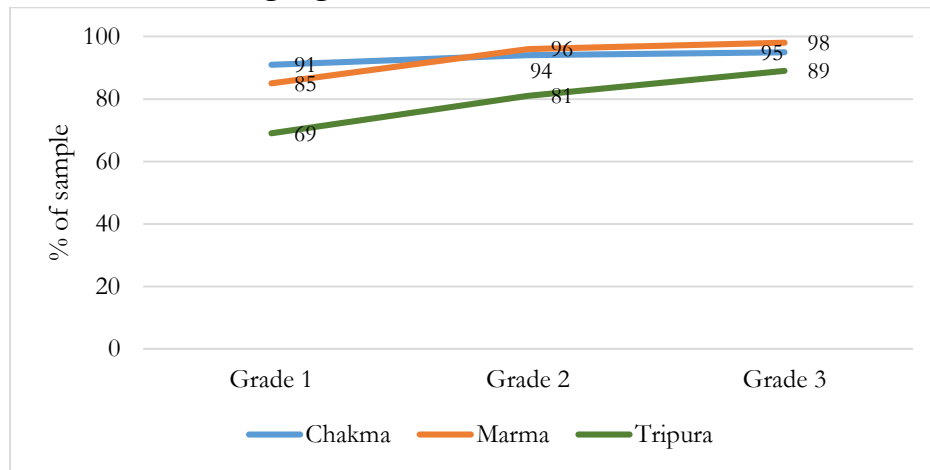
Source: Classroom observations (Situational analysis 2014)

Note: 9 classroom observations were conducted, 3 in each upzilla. Data are not representative. Language questions were multiple response, meaning that classroom observers could indicate all of the languages spoken at home, with peers, and in the classroom.

¹ Source: Interviews with teachers and education officials (Situational analysis)

The majority of teachers surveyed in the situational analysis consider low levels of Bangla comprehension among students to be one of the primary challenges they face in the classroom. **44% of teachers surveyed rate students’ understanding of Bangla “low” and 11% “very low.”** This diverges slightly from students’ self-reported (baseline) data. Overall, 90% of students say they can understand the language of instruction. Encouragingly, this percentage increases over time, from 85% in first grade to 95% in third grade. **There are clear disparities between language groups**, however, as depicted in figure 3.

Figure 3: Percentage of students who can understand the language of instruction, by grade level and home language



Source: Baseline data (2015)

Note: Differences between Tripura and other language groups are statistically significant ($p < 0.001$) for all grade levels.

The dearth of learning materials in languages other than Bangla poses a further challenge. Teachers, families, and education officials note that **classroom textbooks and lesson plans do not reflect indigenous culture or languages**. Two quotes from the situational analysis highlight this issue:

“In the text books, students read about green fields, trees, paddy fields, but in the reality they see hilly areas, therefore they cannot relate their learning with the real world” (Teacher).

“The presence of cultural activities of the tribal areas in the text books would make it easier for the tribal children to learn” (Upzilla Education Official, Dighinala Upzilla).

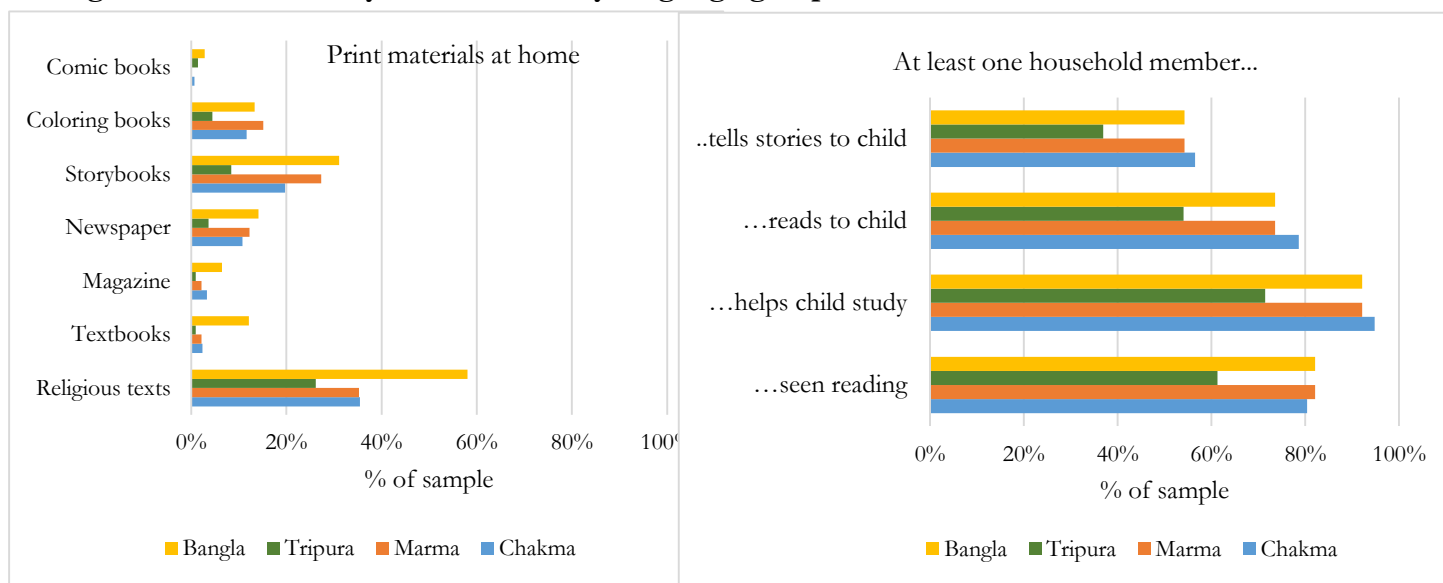
3.2 Enabling environment

Outside of the classroom, an important aspect of reading development concerns the enabling environment in children’s homes and communities. To what extent do parents and family members encourage students to read or study? What kind of access do children have to books and print at home? What community resources exist to help children practice their reading skills?

In order to assess the enabling environment, the baseline survey asked students a series of questions about the availability of print materials in their homes and the types of literacy supportive interactions they have with family members. Here, the disparities between language groups stands

out: Tripura speaking students are less likely to have access to child friendly print material at home, and are less likely to engage in literacy supportive activities with family members.

Figure 4: Home literacy environment, by language group



Source: Baseline data (2015)

Note: Data shown are for all grade levels. Differences between Tripura and other language groups are statistically significant at $p < 0.001$ for all items except for access to magazines ($p < 0.01$) and access to comic books (not significant).

Household socioeconomic status (as measured by the total number of household assets) is also a strong predictor of the home literacy environment. **Students from the poorest households on average have 0 to 1 types of reading materials in the home**, while students from **better off households have 2 to 3 types of reading materials**². Likewise, **50 percent of students from the poorest households have at least someone who in their household who reads to them, compared to 80 percent of children from better off households**. These differences are statistically significant.

In the Chittagong Hill Tracts, as in many contexts, socioeconomic status and language are closely related. Tripura speakers and Chakma speakers are comparable in terms of socioeconomic status, although Tripura speakers are slightly poorer than Chakma speakers. Meanwhile, Bangla and Marma speakers are significantly more advantaged than both groups³. This highlights the multi-dimensional nature of poverty and exclusion.

Data from the situational analysis provide further insight into the enabling environment. Through interviews with parents, community members, and teachers, the authors find overall **low levels of parental support for education, which they attribute primarily to cultural and language barriers**. Parents are less inclined to see the value of an education that does not respect their culture and language. Likewise, parents with low levels of education and/or low levels of Bangla competency are less able to help their children study, and therefore less likely to

² Household socioeconomic status is estimated based on the number of household assets (electricity, refrigerator, TV, livestock, land, bicycle, and motorcycle) that children report having at their home.

³ Source: Baseline data 2015

encourage their children to attend school or to develop home study habits. These challenges accumulate as children get older. As a result, **school repetition and drop out are common among older students.**

Parents with the economic means to do so hire private tutors to help their children develop Bangla skills. Interestingly, the situational analysis suggests that only a small proportion of parents are able to do so, but 63 percent of students sampled in the baseline survey receive reading and writing help from a private tutor. Television programs are another learning resource for non-Bangla speakers. According to parents, many children learn Bangla by watching television programs broadcast in Bangla. However, home television-sets are by no means universal, only 20% of students surveyed at baseline have televisions at home.

Outside of the home, non-Bangla speakers find limited opportunities to practice their Bangla skills. In this regard, children living in urban areas and/or communities close to Bangalee communities are generally more advantaged than their indigenous peers from rural or isolated communities, in part because they have more opportunities to practice Bangla outside of school (for example at the hat-bazaar, where transactions are conducted in Bangla)⁴.

3.3 Literacy skills

3.4.1 Overview

This section provides an overview of children’s reading skills at baseline. Figures 5 and 6 present reading skills by grade level. With the exception of comprehension, it is encouraging to see that children’s average reading skills improve from grade to grade⁵. Notably, the percentage of readers nearly doubles from year to year, from 26% in first grade, to 54% in second grade, and 72% in third grade⁶. Overall, the results of the baseline assessment are consistent with parents’ and teachers’ perceptions of students’ reading and writing abilities: namely, that **most students “can read and recognize the alphabet and punctuation marks, but they read without understanding meaning.”**

⁴ Source: Situational analysis 2014

⁵ Although, to be clear, these data do not track the same students over time, and as such differences between grade levels are only suggestive of trends over time.

⁶ This could explain why comprehension scores decrease from year to year. The pool of readers in first grade is small, and therefore not representative of the wider population of students in Khagrachari schools- it could be that readers in first grade have exceptional skills in both reading and comprehension. With each year, more and more students can read, many of whom master the mechanics of reading, but fail to understand the text.

Figure 5: Foundational reading skills

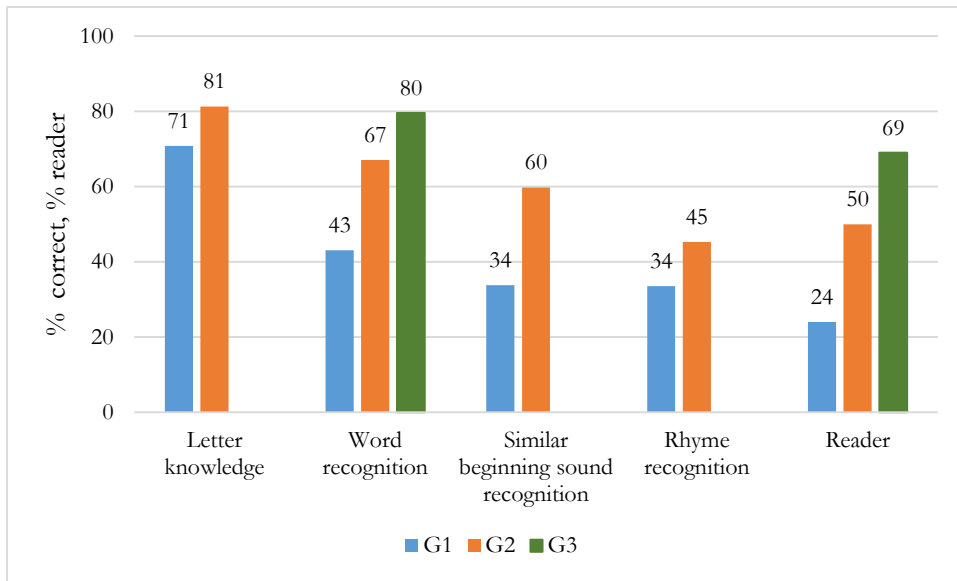
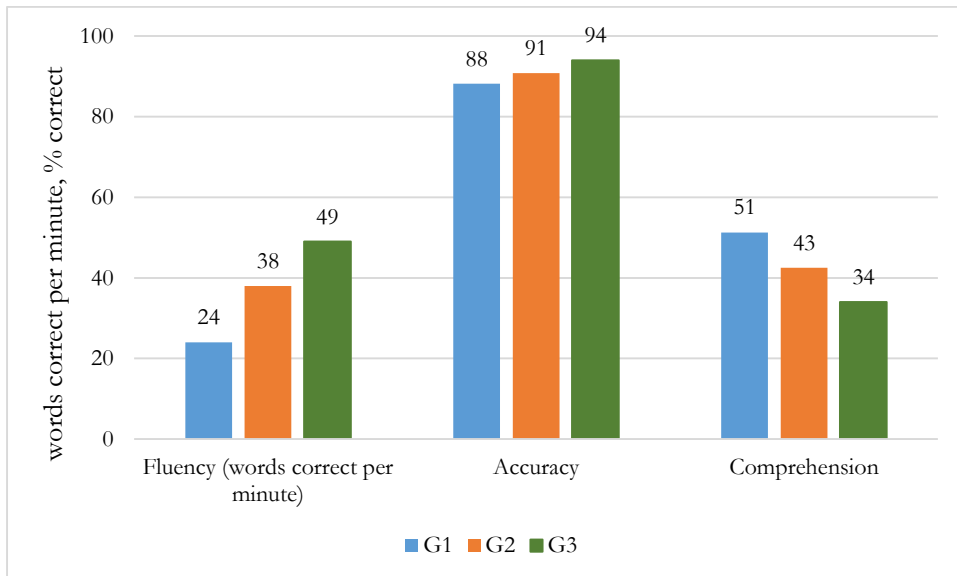
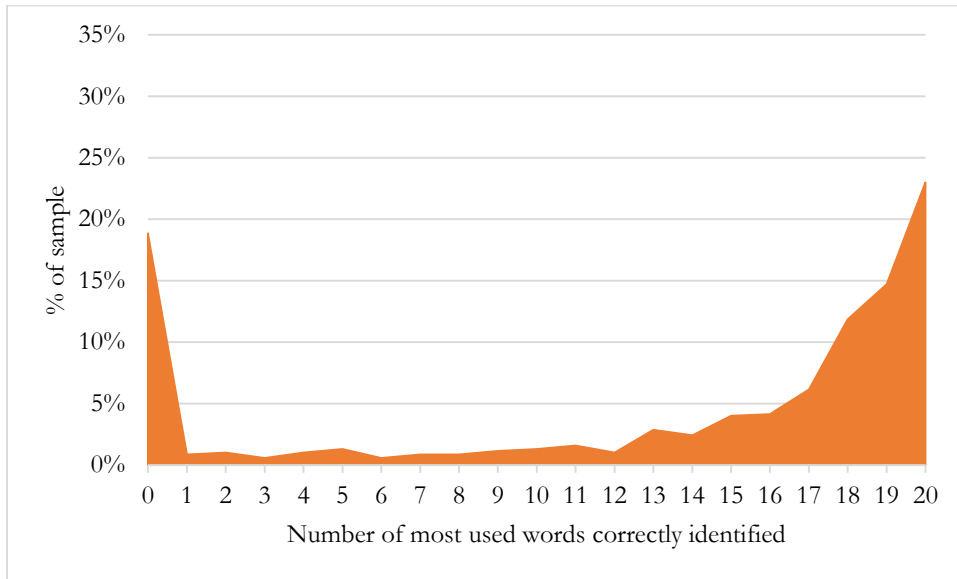


Figure 6: Higher order skills (readers only)



In Bangladesh as in many contexts, the distribution of students' reading scores is slightly bimodal; meaning that students tend to cluster at the extremes: some can identify very few letters, words, or sounds correctly, while others identify close to all letters, words or sounds correctly. These two groups can be seen in figure 7, which illustrates the distribution of most used words scores among second graders.

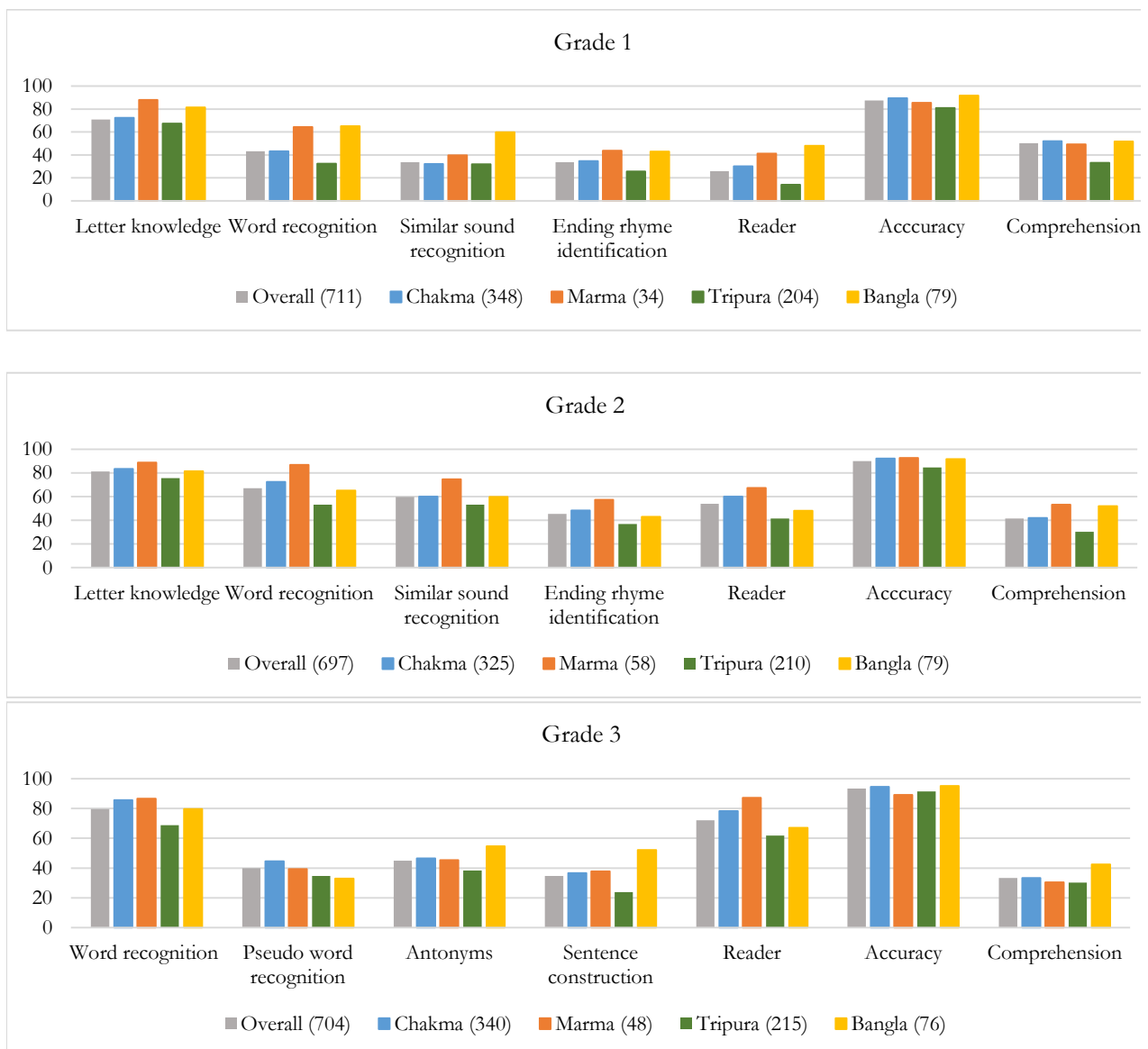
Figure 7: Distribution of Word Recognition Scores (2nd Graders)



3.4.1 Equity analysis

By comparing scores across groups of students, we can identify the factors that contribute to these uneven score distributions. Not surprisingly, **language, socioeconomic status, and the home literacy environment—especially access to reading materials at home—are the main drivers of learning disparities.** Figures 8 through 10 illustrate these patterns, and appendix B presents the results of t-tests and multivariate regression analyses used to identify these patterns.

Figure 8: Reading skills by language group

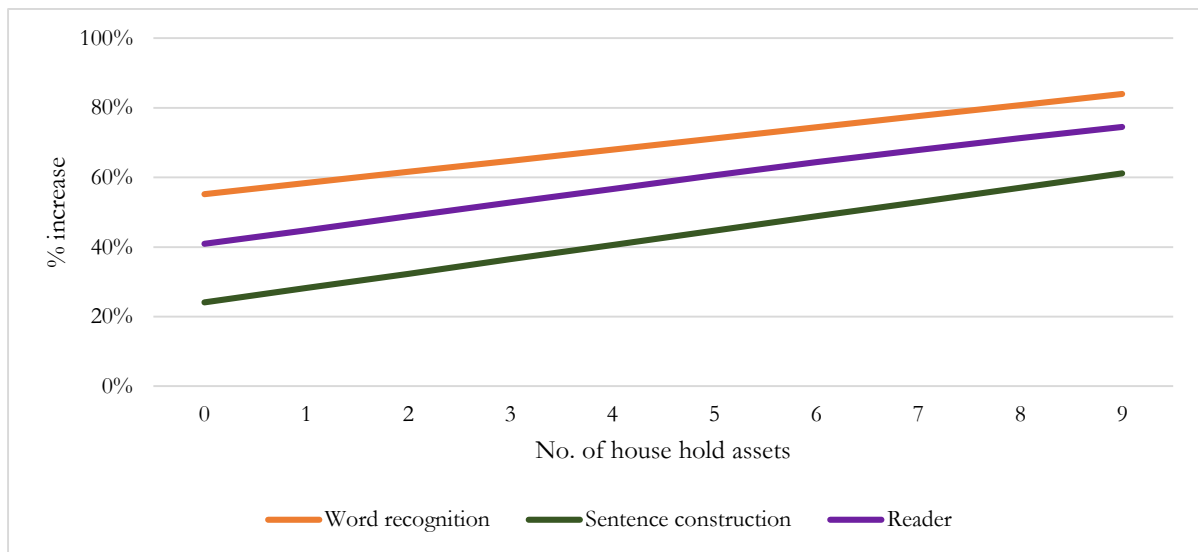


Note: The number of observations per each language group are indicated in parenthesis. Data presented excludes students who speak more than one language at home.

As can be seen in figure 8, Tripura-speaking students tend to lag behind their peers, although these differences diminish slightly among third grade students. Marma-speakers, meanwhile, are the highest performing students, but again, these differences are most pronounced among first and second graders. Differences between Tripura-speakers and their peers, and between Marma-speakers and their peers are statistically significant. However, it is important to note that these data are not necessarily representative of language groups within each grade level.

The relationship between reading skills and socioeconomic status, and between reading skills and reading materials, are described in figures 9 and 10. Household socioeconomic status is a significant predictor of word recognition and sentence construction skills, as well as the likelihood of being a reader (as depicted in figure 9).

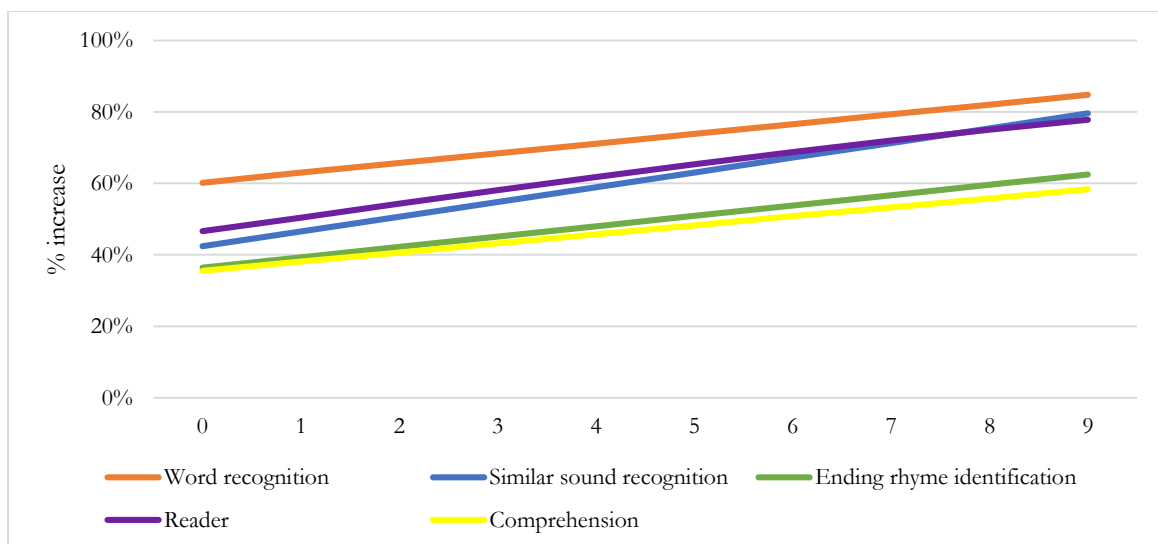
Figure 9: Relationship between reading skills and students' socioeconomic background



Note: Figure 9 represents the predicted increase in scores for each additional household possession, holding other relevant observable factors constant (age, sex, language). The graph displays only skills that are statistically significantly related to socioeconomic status at $p < 0.01$. Data presented include all grade levels.

The number of home reading materials is an even stronger predictor of baseline literacy skills than household socioeconomic status, especially for word recognition, similar sounds, rhyme identification, reading and comprehension skills. Reading habits at home are also an important predictor of baseline reading skills, but the strength and magnitude of the relationship between habits and skills is not as strong as it is for reading materials and skills.

Figure 10: Relationship between reading skills and reading materials at home



Note: Figure 10 represents the predicted increase in scores for each additional reading material in the household, holding other relevant observable factors constant (age, sex, language). The graph displays all skills that are statistically significantly related to reading materials at $p < 0.01$. Data presented include all grade levels. Child friendly reading materials (coloring books, story books) are weighted double.

Together, these findings indicate that **students who speak Tripura at home, students from the poorest households, and those with the fewest learning resources (print materials) at home are the ones most at risk of not achieving grade-level reading skills.**

IV. Language and learning: Program implications

In response to these findings, the Save the Children Country Office in Bangladesh has identified the following programmatic strategies:

At the school level:

- Provide student reading material in students' mother tongue
- Develop teachers' skills in reading and writing in local languages
- Support teachers skills in networking with parents, school management committees, and community leaders

At the household level:

- Promote parental support for children's reading development at home and in community spaces, like libraries, through story-telling, singing, and ensuring access to child-friendly books at home
- Send children to reading camps

At the policy level (for advocacy purposes):

- Recruit teachers with knowledge of local languages, respect for local culture
- Ensure teacher vacancies are kept to a minimum and encourage teacher retention, especially among teachers who speak local languages
- Affirm local culture in text book, student reading material, and print environment, while also ensuring children are exposed to the national language and culture/context

Appendix A: Sample description

Table A1: Summary statistics (baseline data)

<i>Background information</i>	
Age (years)	7.8
Female (%)	50%
Grade 1 (%)	34%
Grade 2 (%)	33%
Grade 3 (%)	33%
Early childhood education (%)	59%
Grade repetition (%)	25%
<i>SES (household assets)</i>	
Electricity (%)	33%
Refrigerator (%)	3%
TV (%)	20%
Cow (%)	43%
Goat (%)	28%
Hen/duck (%)	67%
Land (%)	50%
Bicycle (%)	9%
Motorcycle (%)	3%
None (%)	7%
Total number of household assets	2.6
More than 6 household members (%)	8%
<i>Languages spoken at home</i>	
Chakma (%)	51%
Marma (%)	8%
Tripura (%)	32%
Bangla (%)	14%
Other (%)	0%
Number of home languages	1.0
<i>Languages spoken with peers</i>	
Chakma (%)	52%
Marma (%)	8%
Tripura (%)	31%
Bangla (%)	21%
Other (%)	0%
Number of languages spoken with peers	1.1
<i>Languages spoken in the classroom</i>	
Chakma (%)	43%
Marma (%)	4%
Tripura (%)	17%
Bangla (%)	79%
Other (%)	0%
Number of languages spoken in the classroom	1.4
Understand classroom language (%)	90%

Appendix B: Equity analysis: t-tests and multivariate regression analyses

Table B1: Language skills, by language spoken at home and grade level

	Chakma	Marma	Tripura	Bangla
Grade 1				
Letter knowledge	0.714	0.858**	0.666	0.686
Word recognition	0.450	0.645***	0.351***	0.551***
Similar sound recognition	0.338	0.419	0.332	0.426**
Ending rhyme identification	0.364	0.477**	0.269**	0.420**
Independent reader	0.323***	0.395	0.168***	0.299
Accuracy	88.46	85.74	81.69***	87.82
Comprehension	0.538	0.482	0.447	0.569
Grade 2				
Letter knowledge	0.835	0.893	0.761***	0.814
Word recognition	0.725***	0.873***	0.541***	0.676
Similar sound recognition	0.607	0.768***	0.539**	0.626
Ending rhyme identification	0.489**	0.583***	0.377***	0.448
Independent reader	0.594***	0.712**	0.360***	0.544
Accuracy	92.14	92.62	85.90***	90.44
Comprehension	0.424	0.500	0.344**	0.522
Grade 3				
Word recognition	0.849***	0.834	0.695***	0.797
Pseudo word recognition	0.447***	0.385	0.356	0.354
Antonyms	0.468	0.457	0.391***	0.537**
Sentence construction	0.368	0.388	0.252***	0.525***
Reader	0.775***	0.842	0.576***	0.670
Accuracy	94.43	89.43***	93.50	94.83
Comprehension	0.339	0.315	0.335	0.432*

Note: Differences between language groups are significant at $p < 0.01$ (**) and $p < 0.001$ (***)

Table B2: Relationship between background characteristics and foundational literacy skills

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Letter knowledge	Word recognition	Pseudo word recognition	Similar beginning sounds identification	End rhyme identification	Reader
Age	0.018* (0.008)	0.068*** (0.006)	-0.008 (0.011)	0.069*** (0.010)	0.027*** (0.008)	0.407*** (0.041)
Sex	0.010 (0.017)	0.046** (0.017)	0.074** (0.024)	0.040* (0.020)	0.033~ (0.018)	0.258** (0.095)
More than 6 HH members	-0.048 (0.039)	-0.077* (0.034)	-0.077~ (0.042)	-0.079* (0.039)	-0.034 (0.037)	-0.434* (0.191)
SES	0.019~ (0.010)	0.047*** (0.009)	0.031* (0.013)	0.023* (0.010)	0.027** (0.010)	0.228*** (0.050)
No. of home literacy interactions	-0.001 (0.002)	-0.000 (0.002)	0.003 (0.003)	0.001 (0.002)	0.002 (0.002)	-0.015~ (0.009)
No. of reading materials	0.007 (0.005)	0.027*** (0.005)	0.017* (0.008)	0.041*** (0.006)	0.029*** (0.006)	0.164*** (0.033)
Early childhood education	0.055** (0.018)	0.019 (0.017)	-0.006 (0.026)	0.075*** (0.020)	0.054** (0.018)	0.248* (0.097)
Grade repetition	-0.012 (0.021)	-0.099*** (0.020)	-0.146*** (0.027)	-0.082*** (0.024)	-0.068** (0.022)	-0.745*** (0.116)
Constant	0.606*** (0.075)	-0.005 (0.064)	0.381*** (0.113)	-0.281*** (0.080)	-0.028 (0.072)	-4.058*** (0.449)
N	1377	2077	700	1377	1377	2076

Note: Table B2 presents the relationship between reading skills and student background characteristics, expressed as beta coefficients with robust standard errors clustered at the school level in parenthesis. Coefficients are significant at $p < 0.05$ (*), $p < 0.01$ (**) and $p < 0.001$ (***). All models control for home language, and all are multivariate linear regression models except for model 6, which is a multivariate logistical regression model. Model 1, 4 and 5 include only first and second grade students. Model 3 includes only third grade students.

Table B3: Relationship between background characteristics and higher order literacy skills

	Model 1	Model 2	Model 3	Model 4	Model 5
	Antonym identification	Sentence construction	Fluency	Accuracy	Comprehension
Age	0.006 (0.009)	0.004 (0.012)	3.067*** (0.852)	0.014*** (0.003)	-0.022** (0.007)
Sex	-0.009 (0.021)	0.007 (0.026)	10.251*** (2.377)	0.007 (0.007)	-0.000 (0.018)
More than 6 HH members	-0.068 (0.043)	-0.092* (0.047)	-8.132* (3.287)	-0.010 (0.016)	-0.111** (0.038)
SES	0.029* (0.012)	0.060*** (0.015)	-0.954 (1.635)	-0.001 (0.003)	0.015 (0.010)
No. of home literacy interactions	0.006** (0.002)	0.007** (0.003)	-0.197 (0.233)	-0.001 (0.001)	0.005* (0.002)
No. of reading materials	0.014* (0.007)	0.027** (0.010)	1.729* (0.716)	0.002 (0.002)	0.025*** (0.006)
Early childhood education	-0.003 (0.023)	0.005 (0.028)	-9.939*** (2.650)	-0.009 (0.008)	-0.058** (0.019)
Grade repetition	-0.076** (0.044)	-0.142*** (0.046)	-8.445** (4.751)	-0.054*** (0.019)	-0.115*** (0.037)
Constant	0.303** (0.099)	0.208~ (0.118)	21.243* (9.266)	0.859*** (0.032)	0.545*** (0.074)
N	700	700	1042	1054	1054

Note: Table B3 presents the relationship between reading skills and student background characteristics, expressed as beta coefficients with robust standard errors clustered at the school level in parenthesis. Coefficients are significant at $p < 0.05$ (*), $p < 0.01$ (**) and $p < 0.001$ (***). All models control for home language, and all are multivariate linear regression models. Models 1 and 2 include only third graders. Models 3, 4 and 5 include only readers.