

Impact Brief

USDA McGovern-Dole International Food for
Education and Child Nutrition Program
Timor-Leste – HATUTAN II



Background

Since its independence in 2002, Timor-Leste has made remarkable progress in rebuilding its education system and improving education, health, and nutrition outcomes. Starting in 2007, the Government of Timor-Leste (GoTL) established a national School Feeding Program (SFP), aiming to strengthen attendance and learning among disadvantaged students, particularly in areas facing high malnutrition rates. The Ministry of Education (MoE) has invested substantial resources in improving education outcomes through the rollout of a new curriculum and an on-site mentorship program through Teacher Working Groups, among other initiatives.

Nonetheless, early grade students in rural and remote areas of the country still faced substantial challenges to succeed in school, including high teacher and student absenteeism; prolonged school closures during the COVID-19 pandemic; and natural disasters. While malnutrition rates have declined over time, 47% of children under five years of age are stunted and 32% underweight.¹ The lingering effects of malnutrition continue to impact early grade learning. Nutrition outcomes were further impacted by the escalation of inflation and food insecurity in 2023-2024.² While the SFP was systematically funded by the GoTL since inception, delays in funding allocation to schools and insufficient resources often resulted in meals not being provided during the entire year and often not meeting nutritional requirements.

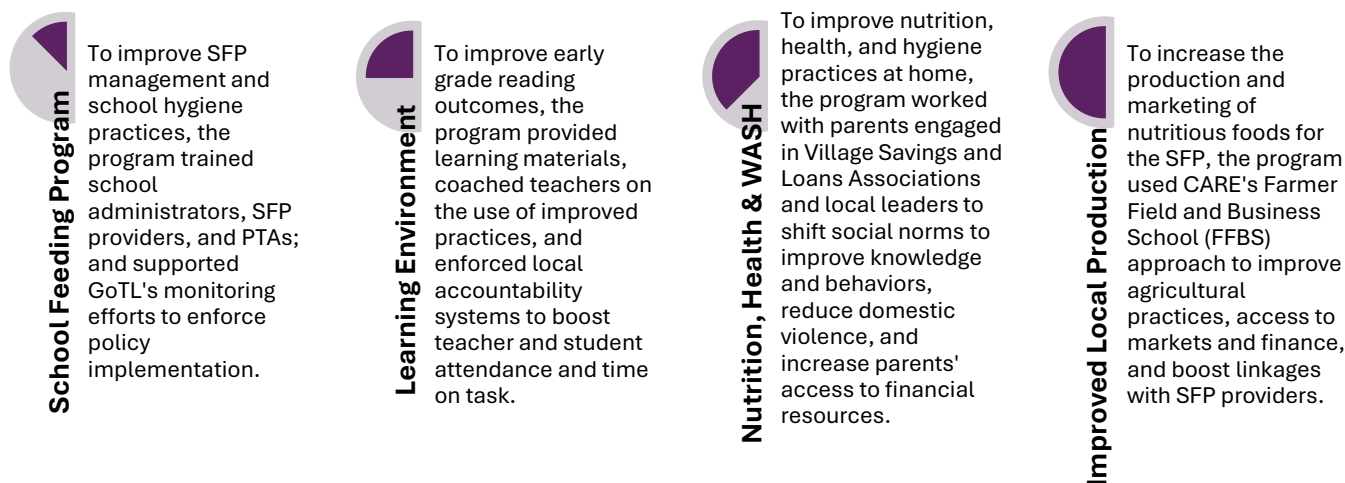
In this scenario, the McGovern-Dole International Food for Education and Child Nutrition Program in Timor-Leste, locally known as *Hahán ne'ebé Atu fó Tulun ho Nutrisaun no Edukasaun* (HATUTAN II, or Food to Support Nutrition and Education) aimed to improve the reading skills of school-aged children and the use of health, nutrition, and dietary practices in Timor-Leste. Built on the success of its first phase (2018-2022), HATUTAN II sought to supplement and strengthen GOTL's efforts to support education and nutrition through effective and efficient implementation of the national SFP in 414 remote and rural schools of four municipalities (Ainaro, Ermera, Manatuto, and Oecusse). In 2022-2025, the program supported 100,895 people, out of whom 87,977 were students.

Approaches

HATUTAN II implemented a multi-pronged intervention to ensure comprehensive support for vulnerable students. All interventions had a system strengthening lens, aiming to ensure sustainable outcomes.

¹ Ministry of Health, [Timor-Leste Food and Nutrition Survey 2020](#), pg.2

² The price of rice, a main staple, increased by 23% in early 2024 (National Institute of Statistics and Ministry of Finance, *Consumer Price Index April 2024*, pg.3), while average vegetable prices increased by 8% (National Institute of Statistics and Ministry of Finance, *Consumer Price Index April 2024*, pg.10).



First Phase Gains

Learning Outcomes. By 2022, grade 2 students supported by the program had significantly higher improvements in reading outcomes in relation to a comparison group – a difference of 4.8 percentage points in literacy scores.³ Having school meals was associated with an increase of nearly eight percentage points in overall literacy scores.⁴ Students who had meals also more than doubled the number of words read per minute (reading fluency) in relation to those who did not – from 5.1 to 11 words per minute.⁵

Advocacy. On September 2022, the GoTL increased its funding allocation for the SFP from \$0.25 to \$0.42/day per child - effective from January 2023 – on recommendation from HATUTAN's research findings.⁶ Additionally, the GoTL also shifted the mechanism for funding allocation to municipalities, enabling faster access to SFP funding and provision of meals earlier in the school year. As a result of policy changes and increased funding, the proportion of schools serving meals in targeted municipalities increased from 41% to 84%.⁷

HATUTAN provided technical assistance to the Ministry of Education's Department of School Social Action to strengthen the application of the school feeding policy, revise the school feeding manual, and monitor the implementation of school meals to ensure timeliness and adherence to nutrition and hygiene standards. In September 2022, the government increased funding allocation for the SFP from \$0.25 to \$0.42/day per child - effective from January 2023 – based on recommendations from HATUTAN's research findings.

³ Consilient (2023) *HATUTAN Endline Evaluation*, pg.20

⁴ Ibid, pg.42

⁵ Secondary analysis of HATUTAN Endline Evaluation data, reading fluency

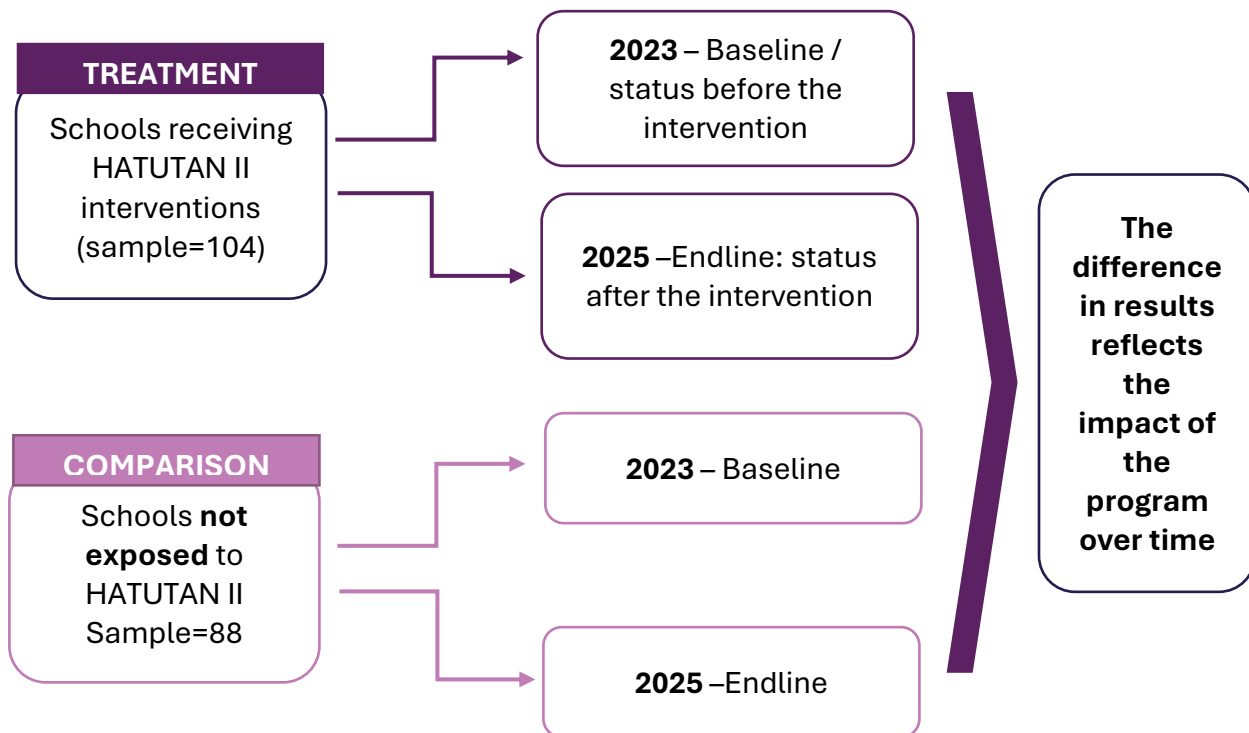
⁶ HATUTAN advocated at national level to increase the budget for school meal provision and address bottlenecks in funding transfer to schools, based on findings from two Cost of the Diet studies, longitudinal research conducted in schools, and an in-depth study analyzing the barriers faced by schools and municipalities to deliver the school feeding program.

⁷ CARE, HATUTAN Final Report, October 2023, pg.4

Evaluation Design

How do we know HATUTAN II made a difference?

HATUTAN II used a quasi-experimental evaluation design to assess impact. The results from intervention schools (treatment group) were tracked over time and compared with those from a set of schools with similar characteristics in neighboring municipalities (the comparison group). Therefore, the program was able to assess not only whether the situation for the treatment participants had improved but also to what extent the gains for the intervention group differed from those who did not receive the program.



HATUTAN II Quasi-Experimental Evaluation Design

HATUTAN II assessed **changes over time** for the treatment (intervention) and comparison groups. For example, the program assessed if the gains for grade 2 students in the treatment group were significantly higher (or lower) than those of grade 2 students in the comparison group. This **difference-in-differences** (DiD) analysis allows the program to understand if the intervention is resulting in higher gains in reading skills over time, compared to the gains observed in schools not receiving the intervention (comparison).

Key results

More schools are providing meals

Access to school meals is an incentive to improve attendance and retention. The meals contribute to increasing student attentiveness and are associated with improved learning outcomes. In 2024, HATUTAN II provided school meals to 74,549 primary school children, or 30.6% of the 243,395 primary school students⁸ in Timor-Leste. HATUTAN II provided a nutritious, protein-rich meal composed of rice, beans, and vegetable oil produced by American farmers, combined with peanuts produced in Timor-Leste. The meals supplied 60-62% of the daily protein needs of students ages 3-5 and 6-9, respectively – a crucial contribution in a context where most students are not consuming protein-rich foods regularly at home. However, most importantly, HATUTAN II has also continued to strengthen local capacity to deliver nutritious meals through the national SFP.

The policy shifts implemented in 2023, following HATUTAN’s advocacy, have continued to yield positive results. The improved access to SFP funding means that more municipalities are starting to provide meals at the beginning of the school year. This is a crucial change, as the first trimester of the school year coincides with lean season in Timor-Leste, when a large proportion of rural households are forced to reduce the quantity and quality of the food consumed. Overall, 76% of the schools served meals during the first trimester of the school year, with six out of eight municipalities starting to serve meals in February-March through national SFP funding. The result stands in major contrast with 1% of the comparison schools providing meals during the first trimester of the school year in 2023.⁹



“If children hear from their friends that there is a school feeding program, then they will go to school as usual. When we implement the school feeding program, it is very clear that the number of absent children will decrease automatically.”

-Director, Manatuto

⁸ Based on a school census conducted by the Lafaek Learning Media project in September 2024; official EMIS data not available to date

⁹ Consilient (2023) HATUTAN II Baseline Evaluation, pg.79

Healthier meals at schools – not ultra-processed snacks

HATUTAN II's evaluation shows that school meals funded by the national SFP now contain more protein and vitamin-rich foods. Most schools (66%) served protein-rich foods, including 55% serving legumes, 23% eggs, and 19% meat.¹⁰ Additionally, 45% served green leafy vegetables and 27% vitamin A-rich vegetables.

At system level, this represents a major improvement in performance. As of 2021, HATUTAN's research showed that only 30% of the comparison schools served meals at all¹¹, compared to 88% in 2025.¹² In 2021, 15% of the comparison schools served legumes and beans; 19% vitamin A-rich vegetables; and 11.5% flesh foods.¹³ Additionally, 65% of comparison schools that served meals in 2021 served condensed milk as a 'meal'.¹⁴ This change reflects increased adherence to the guidelines in the national school feeding manual, which require school meals to include foods rich in carbohydrates, protein, and vitamins. Greater dietary diversity is significantly associated with higher memory scores, indicating that students with more varied diets perform better on cognitive tasks.¹⁵

HATUTAN II provided training to school snack vendors, who were mostly women, to shift marketing practices and include healthy snacks. Promotion of healthy snacks was also done through national-level campaigning disseminated by the Lafaek community magazine, including healthy snacks recipes. The magazine reaches 100,000 households nationwide and has the fourth most frequently visited Facebook page in country.

Students who consumed school meals had a much higher dietary diversity score¹⁶ than those who did not: the average dietary diversity score stood at 0.5 for students in schools not serving meals, compared to 3 at schools serving meals.¹⁷

HATUTAN II's baseline study showed that 100% of the students were consuming unhealthy foods at home – sugary drinks, ultra-processed snacks, and candy. Additionally, over a third of the students were consuming unhealthy snacks at school, despite a national ban on marketing such products to students on or near schools. At the same time, over half of the students were underweight and the dietary diversity score was below 3, with children consuming primarily a carbohydrate-based diet. The

HATUTAN II sought to raise awareness of education officials at national and municipal levels regarding the widespread practice of marketing cheap unhealthy snacks on school grounds and conducted large-scale joint monitoring to enforce the application of the school feeding policy and school health policy. HATUTAN II has also provided technical assistance to the Department of School Social Action to develop a revised monitoring tool for the assessment of school meals and engaged national and municipal-level authorities in actions to enforce the implementation of the school health policy.

¹⁰ Secondary analysis of HATUTAN II Midline Evaluation data.

¹¹ Consilient (2021) *HATUTAN II Midline Evaluation*, pg.99

¹² Consilient (2025) *HATUTAN II Midline Evaluation*, pg.116

¹³ Consilient (2021) *HATUTAN II Midline Evaluation*, pg.101

¹⁴ Consilient (2021) *HATUTAN II Midline Evaluation*, pg.101

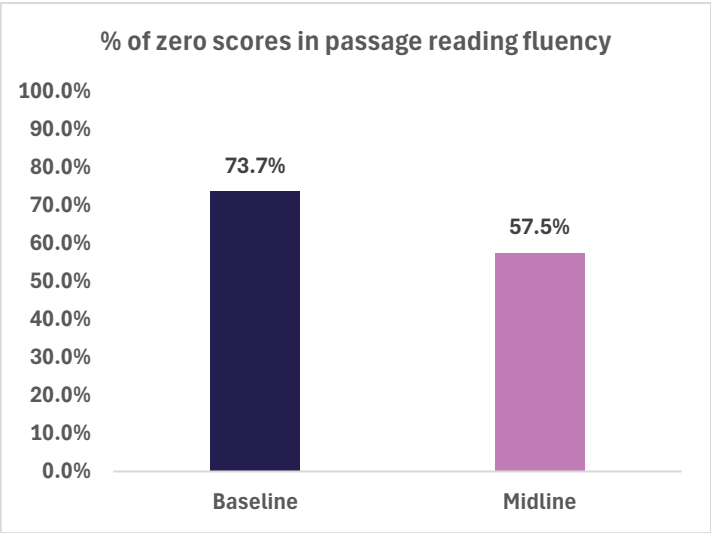
¹⁵ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.94

¹⁶ A dietary diversity score (DDS) measures dietary quality by counting the number of different food groups consumed by an individual over a specific period, usually the previous 24 hours. Higher scores indicate consumption of a larger number of food groups, increasing the likelihood of adequate consumption of micro and macronutrients and improved nutrition outcomes.

¹⁷ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.144 (results adjusted to include vegetable oil, not captured in observations).

program has worked with national and municipal education officials to strengthen monitoring of school nutrition guidelines. In parallel, the program has also trained school snack vendors on the preparation of healthy snacks. As a result of those efforts, HATUTAN II’s evaluation shows a major decline in the consumption of processed and/or sugary foods at school: from 33% to 5% of the students in intervention schools, and from 39% to 7% in comparison schools.¹⁸

Improved Literacy Outcomes



HATUTAN II’s intervention is associated with a major decline in the percentage of students scoring zero in the Early Grade Reading Assessment (EGRA). The percentage of students unable to read a single word in a passage (non-readers) declined by over 16 percentage points at the schools supported by HATUTAN II. This reflects the increased identification of and support to struggling students – a core feature of the model – as well as the increased exposure to reading materials (see “Access to Age-Appropriate Reading Materials” section).

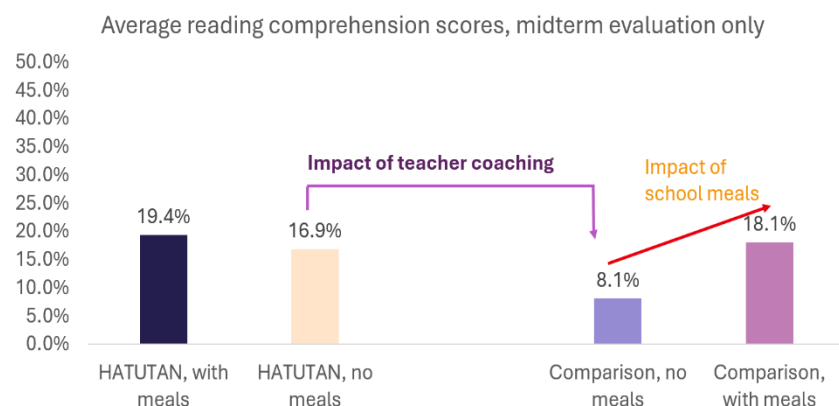
What makes children read better?

Reading at home and having access to school meals are the strongest predictors of improved reading fluency and reading comprehension.¹⁹ The consumption of protein-rich foods is a near-significant predictor of improved reading fluency.²⁰ Conversely, student absenteeism has a negative impact on both reading fluency and comprehension.²¹ Similarly, a higher student-teacher ratio is associated with lower literacy outcomes.²²

Working memory – the ability to sustain and recall information for a limited period of time – is strongly associated with literacy scores. Students with low working memory often struggle with reading comprehension: by the time they have finished reading a text, they may no longer recall parts of what they read. Having school meals is the strongest predictor of higher working memory scores.²³

¹⁸ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.143
¹⁹ Consilient (2025) *HATUTAN II Midline Evaluation*, pgs.60-64
²⁰ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.60
²¹ Consilient (2025) *HATUTAN II Midline Evaluation*, pgs.60-64
²² Consilient (2025) *HATUTAN II Midline Evaluation*, pg.64
²³ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.94

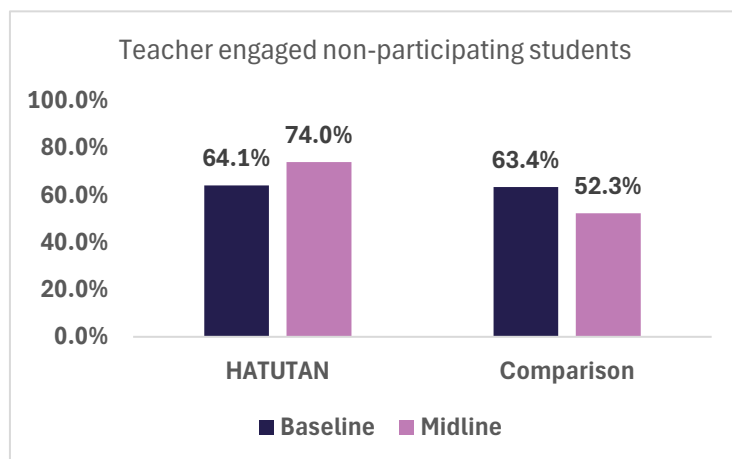
Gains in reading scores: Effect of school meals and teacher coaching



Grade 2 students who received schools meals scored higher in reading comprehension compared to students who did not receive a school meal in both HATUTAN II schools and comparison schools. In comparison schools, there was a difference of 10 percentage points in average reading comprehension scores between schools with no meals (8.1%) and schools serving

meals (18.1%). This major difference reflects the impact of nutritious school meals on working memory and attentiveness, contributing to academic performance.

HATUTAN II's integrated intervention also had effects beyond simply improving attentiveness due to meal provision. HATUTAN II-supported students who received meals performed better than their peers who did not receive a meal; however, the decline in reading comprehension scores was much smaller than in the comparison group – 19.4% compared to 16.9%, or 2.5 percentage points only, compared to 10 percentage points in the comparison group.²⁴ HATUTAN II used a robust teacher coaching model, which enabled teachers to identify struggling students and respond to their needs. HATUTAN's teacher coaching model is improving and sustaining students' reading performance even when children are not receiving school meals.



Improved Teaching Practices

An analysis of the teaching practices over time indicates a notable reduction in the use of traditional teaching methods among HATUTAN II-supported teachers. This includes a reduction in students spending most of the time copying from the board and repeating after the teacher. At the baseline, the average score for traditional practices was 1.3 (on scale of 0 to 2) in HATUTAN II schools, which went down to approximately 0.9 by midline, suggesting a clear shift away from traditional approaches.²⁵

²⁴ Secondary analysis of HATUTAN II Midline Evaluation data.

²⁵ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.78

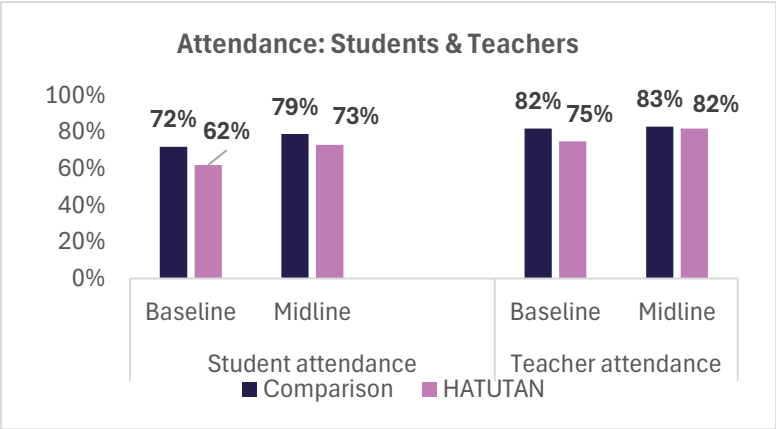
Teachers in HATUTAN II-supported schools are 10 percentage points more likely to engage with the non-participating students in the classroom – a practice that has seen a declining trend in the comparison schools.²⁶ Among the school-level factors examined, the use of positive teaching practices emerged as the strongest and most consistent predictor of student attentiveness.²⁷

Improved Student and Teacher Attendance

Student attendance has increased by 11 percentage points in HATUTAN II-supported schools (62% to 73%), compared to 7 percentage points in comparison schools (from 72% to 79%).²⁸

HATUTAN II-supported schools had major increases in teacher attendance - 7.5 percentage points, from 74.7% at baseline to 82.2% at midline. In comparison schools, teacher attendance increased by 1.1 percentage points only, from 82.3% to 83.4%.²⁹ This result reflects stronger accountability processes in HATUTAN II-supported schools as a result of the program’s support to school administrators and joint monitoring with municipal education services.

“The number of attendances has increased. When the school meal is provided and when we prepare a meal, we check the attendance lists and compared them. The previous numbers were smaller, sometimes there were only around 100 students. Now and maybe in the coming days, when the students assemble in the front yard and we count them, there were more than 200 students. This shows that the collaboration between the teachers and the PTAs is working.”
– Focus group discussion with teachers in Timor-Leste

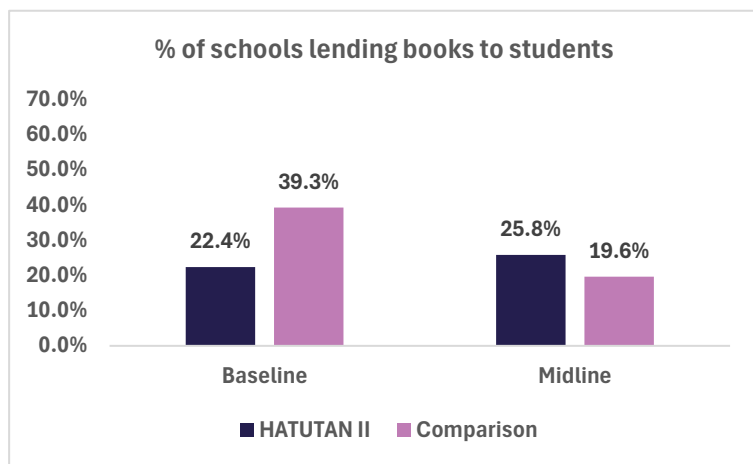
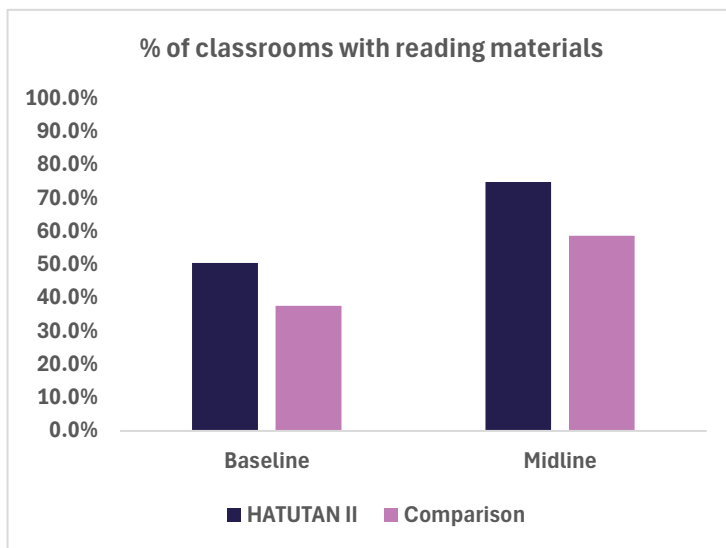


²⁶ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.77
²⁷ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.96
²⁸ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.97
²⁹ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.72

Access to Age-Appropriate Reading Materials

In HATUTAN II-supported schools, access to appropriate reading material increased by 24.3 percentage points, from 50.5% at baseline to 74.8% at midline, while in comparison schools, it increased by 21.1 percentage points, from 37.6% to 58.7%.³⁰ While 77% of the classrooms in HATUTAN II-supported schools have a reading corner, only 54.3% of those in comparison schools have one.³¹

The availability of reading materials is strongly associated with an increase in the use of engaging teaching practices – highlighting the importance of providing resources that support student-centered learning, particularly reading materials, as an effective strategy to increase teachers’ use of different engaging practices.³²



HATUTAN II-supported schools had a major increase in book lending practices. By borrowing books to read at home, students can practice reading skills beyond the limited number of hours spent at school. As seen above, reading at home is a key predictor of reading outcomes. At baseline, 22.4% of intervention schools recorded students borrowing books during the week prior to the survey, compared to 25.8% in comparison schools. At midline, 39.3% HATUTAN II schools had records of students borrowing books, while the

proportion of comparison schools lending books had dropped to 19.6%.³³

³⁰ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.65

³¹ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.65

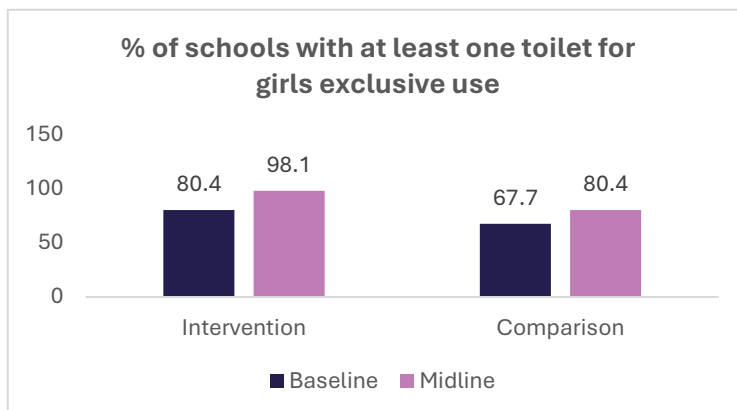
³² Consilient (2025) *HATUTAN II Midline Evaluation*, pg.85

³³ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.67

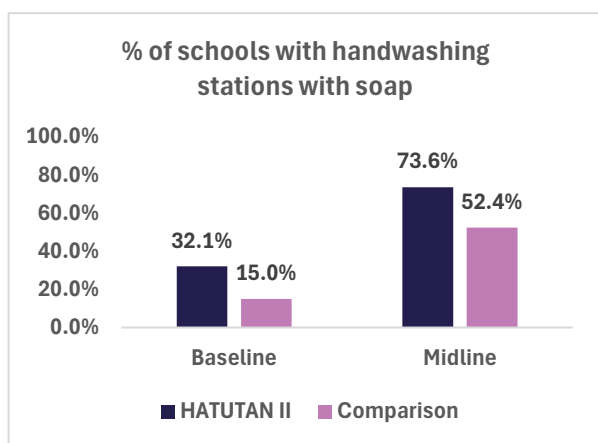
Improved School Hygiene and Sanitation

HATUTAN II schools had a major improvement in sanitation, over and above comparison schools. The proportion of HATUTAN II-supported schools with at least one toilet increased by 17.7 percentage points, from 80.4% at baseline to 98.1% at midline. Among comparison schools, the proportion with at least one toilet went up to 80.4% in 2025 from 67.7% in 2023 – an increase of 12.7 percentage points.³⁴ The proportion of schools with toilets available

for girls' exclusive use increased from 41% to 56% in HATUTAN II-supported schools, while remaining the same (34%) in comparison schools.³⁵



The availability of handwashing stations with soap increased massively in HATUTAN II schools - from 32% to 74%. In comparison schools, this proportion also increased – but reaching 52% only.³⁶



The major increase in the percentage of schools with adequate hygiene standards at both HATUTAN II-supported and comparison schools reflects the impact of increased accountability, as well as the mobilization of school administrators and parent-teacher associations through school scorecard sessions to petition authorities to improve water and sanitation conditions.

A Legacy of Sustainability

HATUTAN II's system strengthening approach leaves behind a robust legacy of increased accountability and improved capacity of teachers, school administrators, and municipal authorities. These are reflected in efficient provision of nutritious school meals, improved teacher and student attendance, increased availability and use of reading materials, and adoption of adequate hygiene and sanitation standards. These results are contributing to a major improvement in reading outcomes, which is observed even among the most vulnerable students.

³⁴ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.159

³⁵ Secondary analysis of HATUTAN II Midline Evaluation data.

³⁶ Consilient (2025) *HATUTAN II Midline Evaluation*, pg.160