Foreign Agricultural Service, United States Department of Agriculture

BASELINE EVALUATION REPORT

PHASE IV OF THE McGOVERN-DOLE INTERNATIONAL FOOD FOR EDUCATION AND CHILD NUTRITION PROGRAM IN SIERRA LEONE

September 2019

ALL PIKIN FOR LEARN IN SIERRA LEONE PHASE IV BASELINE EVALUATION REPORT

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ACRONYMS

APFL	All Pikin for Learn Project
APFL IV	Phase IV of the All Pikin for Learn Project
CRS	Catholic Relief Services
CTA	Community Teacher Association
FGD	Focus Group Discussions
GoSL	Government of Sierra Leone
ICC	Intracluster Correlation
IR	Intermediate Result
IYCF	Infant and Young Child Feeding
KII	Key Informant Interviews
MBSSE	Ministry of Basic and Senior Secondary Education
MGD	McGovern-Dole
MSG	Mothers Support Group
NSFS	National School Feeding Secretariat
PMP	Performance Monitoring Plan
SILC	Savings and Internal Lending Communities
SMC	School Management Committee
SO	Strategic Objective
STS	School-to-School International
USDA	United States Department of Agriculture

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EXECUTIVE SUMMARY

Project Background

Catholic Relief Services (CRS) is implementing the fourth phase of the McGovern-Dole Food for Education project All Pikin for Learn (APFL) in Sierra Leone. The project aims to reduce hunger while improving literacy and primary education, especially for girls. Since 2008, CRS has rolled out APFL, funded by the United States Department of Agriculture (USDA), in chiefdoms within the Koinadugu and Falaba districts. The project aligns with the education strategy of the Government of Sierra Leone (GoSL) by seeking to improve the quality and relevance of education, encourage the completion of primary education for vulnerable and marginalized children, and increase community involvement in education. It is designed to achieve these goals by providing school meals, training teachers and school administrators, improving water and sanitation facilities, providing school infrastructure, and building skills and knowledge within the communities.

In 2018, USDA approved APFL for four additional years of implementation, expanding its reach to 69,731 primary school pupils in the Koinadugu and Falaba districts from 32,684 pupils in the previous phase. Phase IV of the project builds on the progress and lessons learned throughout Phases I, II, and III. It prioritizes activities that leverage gains achieved from prior McGovern-Dole investments to achieve sustainability and graduation by the end of the project. The objectives of Phase IV of APFL (APFL IV) align with the standard strategic objectives (SO) of the McGovern-Dole project:

- Improved literacy of school-aged children; and
- Increased the use of health and dietary practices of school-aged children in 309 schools.

Report Purpose

This report presents the findings of the baseline evaluation of APFL IV. The evaluation establishes baseline values for all performance indicators, generates data for comparative analysis, and validates project strategies and assumptions. Findings from this report will elucidate contextual factors that can improve pupil health and literacy in the most food-insecure chiefdoms in Koinadugu and Falaba districts. It will also allow the McGovern-Dole APFL IV project team to establish questions to test APFL's theory of change and to refine indicator targets.

Methodology

The external evaluation of APFL IV is a four-year study. Baseline data collection took place in June 2019; the midline data collection will take place in June 2021 and the endline in June 2022. Each evaluation uses a mixed-method approach with six tools:

- Literacy assessment
- School observation checklist
- Classroom observation

- School-based surveys with seven stakeholder groups: pupils, head teachers, teachers, food preparers, school management committees (SMC) chairpersons, community teacher associations (CTA) chairpersons, and mothers support groups (MSG) heads
- Key informant interviews (KII) with government officials and partner organizations
- Focus group discussions (FGD) with community members, leaders, and parents

The study includes 70 sample schools across 15 chiefdoms where the project is intervening. Ten randomly selected pupils enrolled in class 2 took the literacy assessment and the school-based survey of pupils. Enumerators conducted additional school-based surveys with each school's head teacher and appropriate group representative; this could include up to three teachers and two food preparers. In-depth interviews with key stakeholders at the Ministry of Basic and Senior and Secondary Education (MBSSE), the National School Feeding Secretariat (NSFS), the Ministry of Health and Sanitation, and implementation partners rounded out the qualitative component of the assessment. Finally, 12 FGD collected the critical perspectives of community members, leaders, and parents.

Limitations

The following limitations should be considered when reviewing the findings of the APFL IV baseline:

- **Use of tools from previous APFL phases.** The baseline data collection utilized several tools from previous APFL evaluations. While these tools were reviewed and updated to a certain level, the tools were not fully aligned with the most recent recommendations from literacy research. Additionally, the instructions for the data collection were in English. Based on the results from the listening comprehension task, it is likely that many students struggle with listening comprehension so may not have understood the task.
- **Delays in uploading data due to poor connectivity.** Poor connection in more remote communities was a critical challenge during data collection as enumerators were unable to upload the data to the server each day. This limited the ability of the team to properly monitor the data as it was coming in and resolve problems quickly. Despite these challenges, the data quality is strong thanks to redundant data quality processes put into place to address this potential challenge.
- **Lower response rates than anticipated for school surveys.** The sampling approach called for three teachers to be surveyed and three classrooms to be observed at each school—one each for classes 2 through 4. However, there were fewer eligible teachers and classrooms to include as a result of the multi-level classrooms. There were also fewer MSG heads and food preparers to survey than recommended as many sampled schools are new to the APFL project and have not yet established these positions.
- **Inherent bias in sampling children present on day of assessment.** Pupils' literacy assessment results may be biased towards the types of students who attend regularly and may exclude those pupils who are enrolled by do not attend regularly.

Findings

Strategic Objectives

The baseline literacy assessment of surveyed APFL IV class 2 pupils revealed low literacy levels—only 5.58 percent met the project's reading comprehension benchmark. Pupils performed best on the alphabet naming subtask; however, the majority of pupils performed poorly on each of the other subtasks. In general, boys outperformed girls.

Teachers play a critical role in pupils' learning and are, therefore, instrumental in meeting APFL's project goals. There is a clear need for rigorous teacher training and coaching on effective teaching techniques. Fewer than half of teachers are certified; therefore, CRS's teacher training and certification efforts will help fill a critical gap in Koinadugu's and Falaba's workforce. According to surveys, positive mentorships between teachers and head teachers could be an impactful activity.

It will also be critical for CRS to support the school feeding program. Without CRS's support during this gap in the school feeding implementation between APFL III and APFL IV, only 6.12 percent of schools provided a meal on the day of the assessment; 60.46 percent of head teachers of those that did not said the absence was due to food supplies running out. With less than half of pupils reporting that they maintain the minimum acceptable diet, keeping school feeding programs well stocked will be essential for pupils' nutrition and, in turn, their attendance and literacy outcomes.

Knowledge on good health and hygiene should be reinforced as less than half (42.74 percent) of pupils could name six out of 12 hygiene practices and only 37.25 percent of food preparers could name eight of eleven best food preparation and storage practices. However, the infrastructure at the schools did show improved sanitation resources at 228 of 309 intervention schools (73.79 percent) with nearly three-quarters of sampled schools having a functioning latrine (74.26 percent).

Relevance

Qualitative data from the community FGDs and the stakeholder KIIs indicate that the holistic approach and design of APFL IV is responsive to the most prominent needs of children in their community, specifically feeding support, improving teacher quality, water wells and latrines, and improving school building infrastructure. Of these needs, school feeding support was cited the most often in FGDs and echoed prominently in stakeholder KIIs. Overall, community members are appreciative of APFL's programming and want to see the project succeed.

Effectiveness

Participants in both the community FGDs and stakeholder KIIs view the project's overall design as appropriate—if not critical— to the context of their communities. However, stakeholders and community members alike expressed concerns over the effectiveness of the project if all

implementation aspects are not strictly adhered to and monitored; specific areas of concern include teacher training, food provision, and community sensitization. Additionally, participants drew attention to gender considerations within the project that should be examined and addressed, such as girls' higher chore burden, risk of pregnancy and early marriage, and gender roles within APFL IV activities.

Sustainability and Impact

CRS's coordination with partners will be critical to ensuring that APFL's activities are sustainable beyond the life of the project. There are opportunities to include all partners—from community members and school support groups at the local level through the NSFS at the national level—in each APFL activity. Indeed, the NSFS is eager to learn from CRS's successes as it prepares to take on the responsibility for school feeding activities.

Conclusions

Overall, the findings from the baseline evaluation for the APFL IV project show that the design of the project is relevant and properly addresses the needs of the communities CRS serves. The findings provide both a challenge and encouragement for CRS. Communities are very supportive of the APFL programming and want it to continue. The NSFS, as an entity, is ready to learn and prepare itself to take on the school feeding activities.

However, with such a large expansion of the APFL project in Phase IV, the project's needs are great. Based on the baseline literacy assessment, APFL IV pupils' literacy outcomes are low—only 5.58 percent of class 2 pupils achieved the reading comprehension benchmark. In general, boys outperformed girls across the subtasks, which indicates a gender-based performance gap. Importantly, low performance on the listening comprehension sub-task indicates very low English abilities that are foundational for reading acquisition.

Teachers will likely play a critical role in the project's success. While teacher attendance is relatively high, there is a clear need for rigorous training and coaching. Less than one-quarter of teachers felt any confidence in their ability to use the techniques in their own classrooms. Fewer than half of teachers are certified, so CRS's teacher training and certification efforts will help fill this gap in the teaching workforce in Koinadugu and Falaba districts. One encouraging finding concerning teacher coaching was that nearly all teachers (94.85 percent) had been observed by their head teacher in the academic year; 87.15 percent had been observed more than twice in the year. With one of the top three reported motivation factors for teachers being their relationship with the head teacher, supporting positive relationships between teachers and their head teachers can be an impactful activity for CRS.

Supporting the feeding program will be critical for the APFL IV project. Only 6.12 percent of head teachers reported being able to provide a school meal on the day of the baseline data collection visit. This indicates that without CRS support, provision of meals at schools will be limited. Additionally, with less than half of pupils reporting that they are reaching the minimum acceptable diet, keeping the school feeding programs well stocked will be essential for pupils'

nutrition.

Recommendations

Relevance

TAILOR APFL IV INTERVENTIONS TO COMMUNITY NEEDS.

The project should adapt its approach in different communities based on previous level of support from APFL as well as current needs and priorities. More targeted interventions would likely lead to greater impact as well as encourage stronger community buy-in and ownership, thus promoting future sustainability. Tailoring approaches would also allow CRS to leverage existing resources and potential partnerships with other entities working within the communities to be more efficient.

EXAMINE EXISTING STUDENT AND TEACHER ENGLISH LANGUAGE ABILITIES.

Student performance on the listening comprehension sub-task may indicate that students have a limited ability to understand spoken English. The project may want to consider undertaking more targeted research into the reasons for this gap in comprehension. Specifically, this may mean a deeper investment in coaching for basic skills for literacy instruction for early grade teachers, who's English language proficiency was not addressed in this baseline data collection. Improving the English abilities of teachers may be a necessary step to ensuring they can confidently teach students to read in English.

Effectiveness

CLOSELY MONITOR PROJECT IMPLEMENTATION.

At every stage of the APFL IV project, it will be important to monitor the implementation of activities in order to ensure fidelity to the project design. Close monitoring should help alleviate community concerns around theft or ineffectiveness, increase CRS's responsiveness to challenges that arise, and allow the project team to link specific interventions with outcomes observed during the midline and endline evaluations.

ADDRESS GENDER CONSIDERATIONS WITHIN THE PROGRAMMING.

CRS should examine and address gender considerations in all aspects of APFL IV programming. Baseline findings show that boys outperform girls on the literacy assessment; furthermore, community members shared concerns that challenges around gender are prevalent in targeted communities. CRS should consider completing a thorough gender and social inclusion analysis to ensure that the project's design, implementation, monitoring, and evaluation accounts for existing gender disparities and that the interventions designed to remove or reduce such disparities are appropriate for the community context.

Sustainability and Impact

BUILD THE CAPACITY OF THE NATIONAL SCHOOL FEEDING SECRETARIAT.

Considering the APFL IV goal of transitioning the school feeding program to the GoSL, CRS should play a role in building the capacity of the nascent NSFS. This could include frequent collaboration and communication between the two groups, as well as CRS-led trainings. Potential trainings could focus on building the capacity of monitoring-and-evaluation teams to oversee implementation of the school feeding program as well as address the program's administrative and logistical components.

INTEGRATE TRANSITION STRATEGY FROM START-UP FOR SUSTAINABLE IMPACT.

Clear communication and expectations setting around CRS's transition from the region must be central to the early discussions with communities, partners, and the GoSL. CRS should develop a transition strategy for AFPL IV in partnership with relevant stakeholders. Such a strategy should clearly articulate transitions and phase-out approaches for each activity, identify responsible parties to continue implementation after APFL IV ends, delineate direct and indirect costs, establish monitoring and oversight guidelines, and set clear timelines. A successful strategy should also outline contingency plans, as needed.

INTRODUCTION

EDUCATION CONTEXT IN SIERRA LEONE

The Government of Sierra Leone (GoSL) declared basic education "free and compulsory" with the Education Act of 2004.[1] While school enrollment has increased in recent years, Sierra Leone faces high dropout rates and low literacy rates.[2, 3] According to the most recent *Demographics and Health Survey*, only 31.9 percent of males over the age of six and 23.7 percent of females have completed primary school or higher.[4] Furthermore, Sierra Leone's education system was devastated by the 2014–15 Ebola virus outbreak; schools closed for more than nine months, resulting in nearly one year of lost schooling.[5]

Despite these challenges, the GoSL has committed to increasing its investment in the education sector. It allocated 21.00 percent of the national budget to support the launch of the GoSL's Free Education Program in August 2018. The program provides free education from pre-primary through secondary school and strengthens schools' infrastructure, supply chains, and services.[6] The Ministry of Basic and Senior Secondary Education's (MBSSE) 2018–20 Education Strategy aims to increase access, equity, and completion rates; improve the quality and relevance of pupils' education; and strengthen the education system. Key interventions of the robust strategy include bolstering the national school feeding program, upgrading school infrastructure through maintenance or construction, improving teaching and learning materials in the classroom, and investing in teachers' skills and motivation.[7]

ALL PIKIN FOR LEARN PROJECT BACKGROUND

Catholic Relief Services (CRS) has been implementing the All Pikin for Learn (APFL) project in northern Sierra Leone since 2008. APFL, funded by the United States Department of Agriculture's (USDA) McGovern-Dole Food for Education program, strives to reduce hunger and improve literacy and primary education. McGovern-Dole projects around the world provide school meals, teacher training, and other support activities to boost school enrollment and academic performance.[8]

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[1] Parliament of Sierra Leone, "The Education Act, 2004," signed March 29, 2004. http://www.sierra-leone.org/Laws/2004-2p.pdf

[2] UNESCO Institute of Statistics, accessed August 6, 2019, http://uis.unesco.org/country/SL#slideoutmenu

[3] Statistics Sierra Leone - SSL and ICF International. Sierra Leone Demographic and Health Survey 2013. Freetown, Sierra Leone: SSL and ICF International. 2014.

[4] Statistics Sierra Leone - SSL and ICF International. Sierra Leone Demographic and Health Survey 2013. Freetown, Sierra Leone: SSL and ICF International. 2014.

[5] Sierra Leone Ministry of Basic and Senior Secondary Education, "2018–20 Education Sector Plan," 2017.

[6] State House Media and Communications Unit, "President Bio Launches Free Education, Calls on Parents and Teachers to Support the Initiative," last modified August 20, 2018, https://statehouse.gov.sl/president-bio-launches-free-education-calls-on-parents-and-teachers-to-support-the-initiative/.

[7] Sierra Leone Ministry of Basic and Senior Secondary Education, "2018–20 Education Sector Plan," 2017.

[8] United States Department of Agriculture, "McGovern-Dole Food for Education Program," accessed August 6, 2019, https://www.fas.usda.gov/programs/mcgovern-dole-food-education-program.

Under the McGovern-Dole program, CRS has provided nutritional support to communities within Sierra Leone's Koinadugu and Falaba districts. This support includes providing nutritious meals to pupils, teachers, and food preparers at intervention schools each school day, as well as take-home rations for pupils who demonstrate high academic performance and teachers who support APFL's after-school activities. APFL has sought to improve pupils' educational outcomes through the provision of teaching and learning materials, the creation of after-school reading clubs, literacy training and coaching for teachers and school administrators, and school infrastructure improvements. Additionally, the project has worked with local communities to create and strengthen school management committees (SMC), community teacher associations (CTA), mothers support groups (MSG), and savings and internal lending communities (SILC).

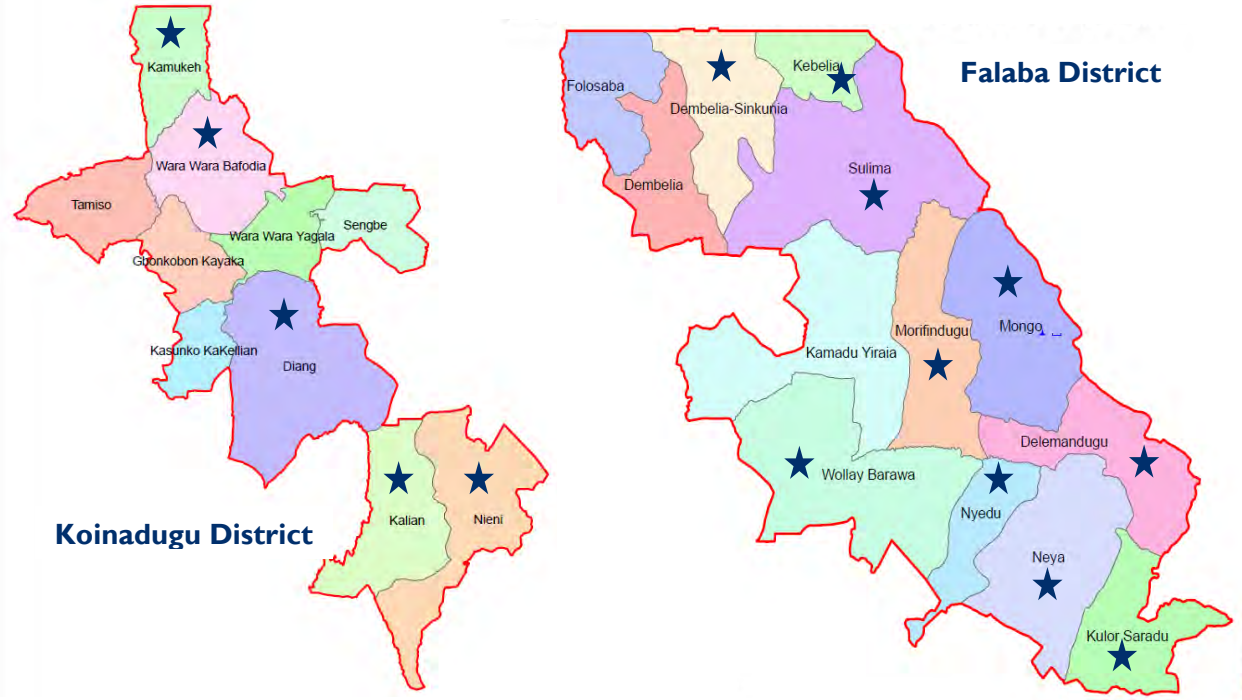
Table 1: Timeline of All Pikin for Learn Project Phases

APFL Phases	Timeline	Geographic Area	Pupils Reached
I	2008–12	4 chiefdoms	25,128
II	2012–16	5 chiefdoms	28,585
III	2016–18	5 chiefdoms	32,684
IV	2018–22	15 chiefdoms	69,731

APFL went through three project phases between 2008 and 2018. Phase 1 targeted the four most food insecure chiefdoms in Koinadugu with critical food distribution via daily school meals and take-home rations to more than 5,000 girls in upper primary classes. CRS also trained SMCs, provided schools with teaching and learning materials, and supported key infrastructure improvements. In Phase II, the APFL expanded to include a fifth chiefdom and 75 additional schools. In-service teacher training on diagnostic teaching methods was added to improve literacy instruction within the intervention schools. CRS also established SILCs to improve the financial stability of households. Lastly, in Phase III, CRS supported intervention schools in rebuilding after the Ebola crisis. Twenty-five literacy coaches were hired and equipped to provide training and coaching to teachers, and after-school reading clubs were created to support pupils' interest in reading. All Phase III activities ended on June 30, 2019.

Now, CRS is launching the fourth phase of the project (APFL IV), which will run from September 2018 through September 2022. Under this $25 million phase, CRS will double its reach from 32,684 primary school pupils to 69,731 pupils in 309 schools across 15 chiefdoms in the Koinadugu and Falaba districts. The 32,684 pupils who benefited from APFL's Phase III with continue to be supported in APFL IV. Building upon the progress made, APFL IV will relaunch its core project activities, add new support activities, and intensify advocacy efforts to achieve sustainability at the local, district, and national levels. CRS will partner with the MBSSE, the Ministry of Health and Sanitation (MoHS), CARITAS Makeni, Ernest Bai Koroma University, the Association of Language and Literacy Education (TALLE), District Councils, and World Hope International. A key goal of APFL IV is to successfully transition support of the schools' feeding programs to the GoSL's national school feeding program by the end of the project in 2022 so these partnerships with be critical to the sustainability of the efforts.

Figure 1: Intervention Chiefdoms within the Koinadugu and Falaba Districts

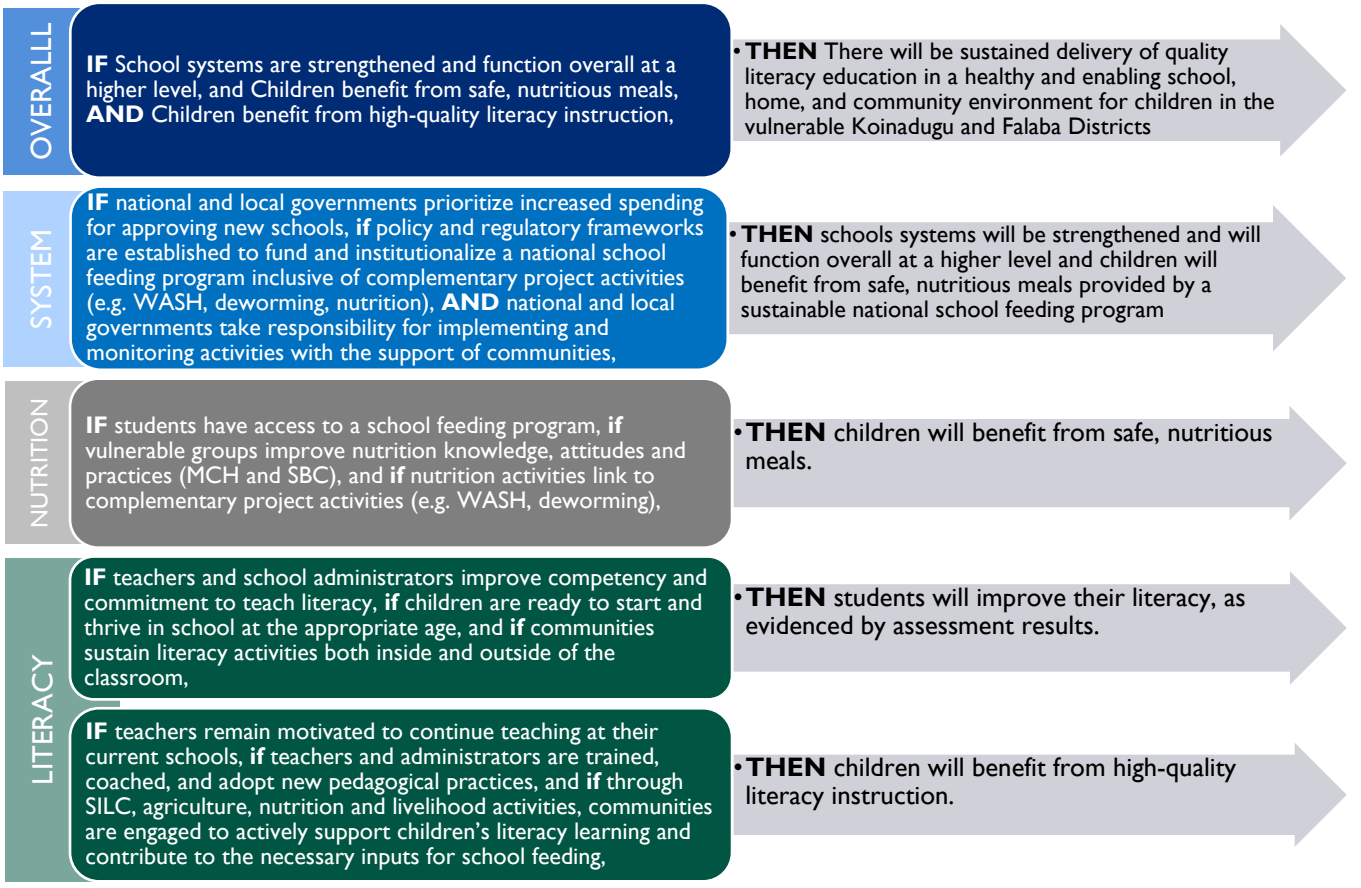


Note: Stars indicate APFL IV intervention chiefdoms within the Koinadugu and Falaba districts.

INTERVENTION LOGIC AND THEORY OF CHANGE

Since its inception, the APFL project has been a school feeding program aiming to improve the education and nutrition outcomes of children. Due to the poor state of education in the intervention districts, CRS has focused resources on improving and jumpstarting literacy through the APFL project. However, after the Ebola crisis, the project intensified efforts to reinforce positive health and dietary practices in pupils and communities. The APFL IV Theory of Change (TOC) is outlined in Figure 2 below.

Figure 2: APFL IV Theory of Change



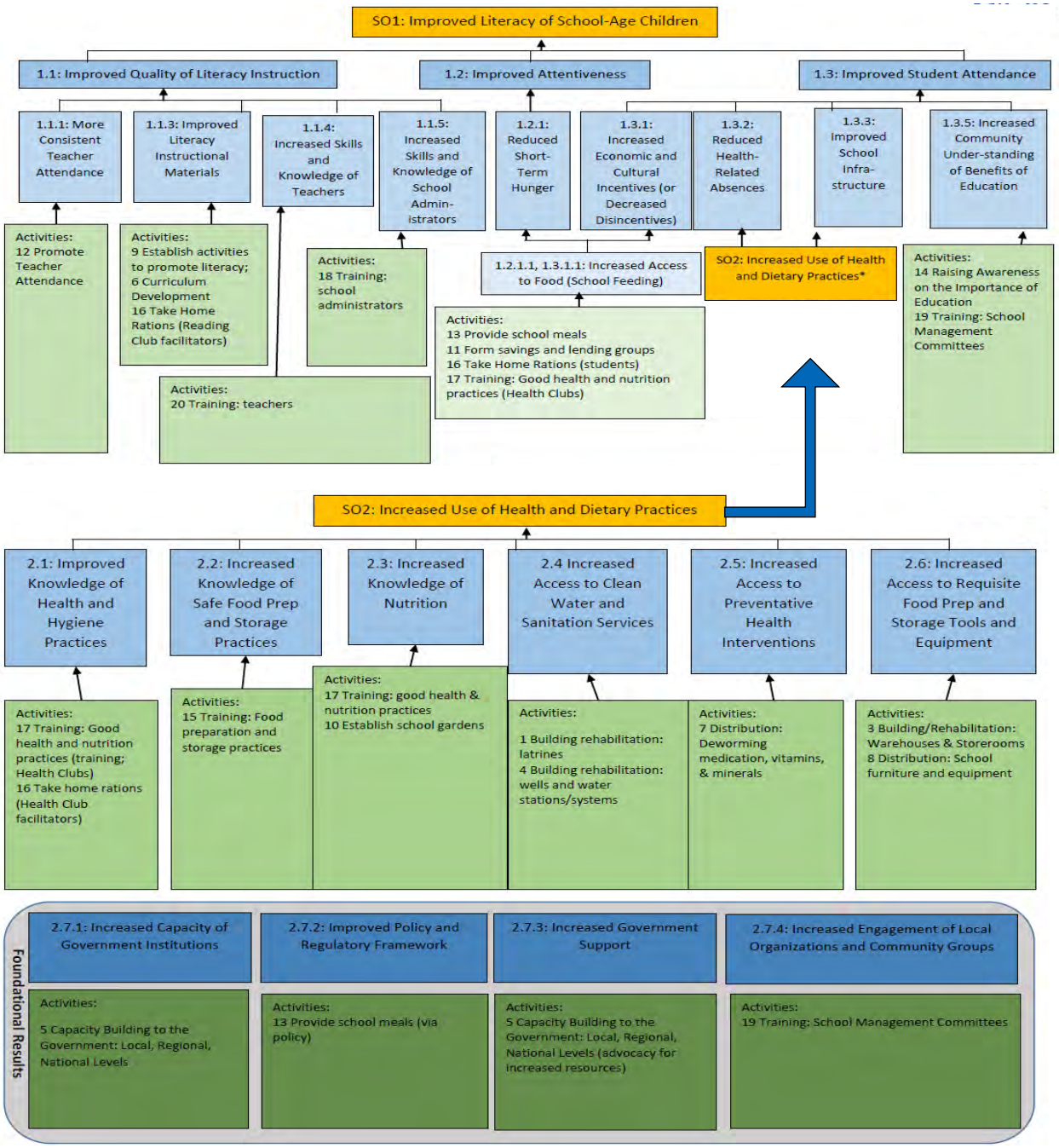
STRATEGIC OBJECTIVES

The APFL IV project centers around the two USDA MGD project SOs:

- SO 1: Improved literacy of school-age children; and
- SO 2: Increased use of health and dietary practices of school-aged children.

Both SOs will be supported as outlined in the APFL IV Project Results Framework (Figure 3).

Figure 3: AFPL IV Project Results Framework



Under the project's first SO, APFL IV will implement several school-based activities to improve the literacy of school-aged children in 309 intervention schools. CRS recognizes the critical role of teachers in pupils' learning and will focus on teachers' professional development through training, coaching, and performance incentives. With an emphasis on sustainability through the GoSL, CRS will conduct a two-year, distance-education certification program to increase the number of certified teachers who are eligible to enroll in the MBSSE system and become

government-salaried teachers. CRS will also support existing qualified teachers in the enrollment process.

Direct support to pupils will include the establishment of 117 new after-school reading clubs that promote a culture of reading. As the heart of the McGovern-Dole program, daily school meals will be provided at all intervention schools—in collaboration with the MBSSE at all government-supported schools and independently at non-government schools—to encourage pupils' attendance and attentiveness. Take-home rations will be provided to the top-performing male and female pupils in each class level at intervention schools during an annual ceremony. Teachers who facilitate after-school activities will receive quarterly rations.

The project's second SO seeks to increase the use of health and dietary practices. CRS's activities will focus on promoting health, nutrition, and personal hygiene initiatives within the schools and communities. Health clubs for pupils will be expanded and reinforced. Food preparers, school administrators, SMC chairpersons, and local leaders will receive training on proper food preparation, storage, and sanitation practices. MSG members will receive training on maternal and child health and nutrition. Twenty school gardens will be established with support from the Ministry of Agriculture to provide hands-on learning opportunities for both pupils and community members.

CRS will improve school water and sanitation facilities, which will allow pupils to put proper health behaviors into practice. In consultation with the Ministry of Sanitation and Water Resources, the project will build and repair gender-segregated latrines in accordance with national standards; ten new wells will be built at schools currently without access to water. To further mitigate the effects of poor sanitation, CRS will also collaborate with the Ministry of Health and Sanitation in school-based deworming efforts under their national Neglected Tropical Disease Program.

To achieve these ambitious goals and move towards local and national sustainability by the end of this phase, the APFL IV project team will consistently work alongside local communities, organization partners, and GoSL ministries, departments, and agencies, including the MBSSE, Ministry of Health and Sanitation, National School Feeding Secretariat, and Ministry of Sanitation and Water Resources. National advocacy efforts will be interwoven throughout Phase IV to promote teacher professional development and incentives, share best practices with the national school feeding program, and inform and reinforce national priorities around child health, nutrition, and sanitation.

EVALUATION PURPOSE

EVALUATION PURPOSE

CRS contracted School-to-School International (STS) as the independent external evaluator for the APFL IV project. The evaluation plan for Phase IV includes a baseline data collection in the June 2019, a midline evaluation in June 2021, and an endline evaluation in June 2022. This report outlines the results of the 2019 baseline evaluation. The baseline evaluation does not compare changes over time between phases of the APFL project, only within Phase IV.

The purposes of the baseline evaluation are to establish baseline values and define targets for APFL IV's program performance indicators, to generate data to be used for comparative analysis, and to help CRS validate the project's strategies and assumptions. Evidence from this report will elucidate some of the contextual factors for improving pupil health and literacy in the Koinadugu and Falaba districts, allowing CRS to make evidence-based decisions in their programming to maximize the effectiveness, relevance, efficiency, sustainability, and impact over the life of the project.

Partners within the MSBBE may also use the results in order to inform their national policies, programs, and practices. As examples, the National School Feeding Secretariat may adopt the best practices demonstrated during APFL IV or the members of the MBSSE focused on early grade reading may better understand contextual factors underlying pupils' literacy performance. At the community level, pupils' performance can be used in discussions with the SMCs, CTAs, MSGs, and parents to reinforce the need of community support around pupil's education and reading.

EVALUATION QUESTIONS

To support the previously stated purposes, this baseline evaluation report explores the following questions within its findings, conclusions, and recommendations.

OVERALL RELEVANCE

- To what extent does the program design respond to the needs identified by the baseline?

PROGRAM IMPLEMENTATION

- How appropriate is the design to the context, and to what extent is the project likely to adopt different approaches in different communities?
- What challenges can already be foreseen with the design of the project in achieving its objectives, and what improvements could be made to the design and plan?
- How could integration of the two SOs and the foundational results be enhanced or further leveraged to deeper positive program impact?
- How could integration of the gender considerations be enhanced or further leveraged to deepen positive project impact?

- To what extent will the project respond to the needs of stakeholders and facilitate their participation? What design changes could be made to improve this?
- Which interventions are likely to be the most critical or effective in achieving the project's intermediate results and objectives?
- What are the key assumptions related to program's theory of change that need to be monitored and specifics questions to test the theory of change during APFL IV implementation?
- Are there any foreseeable negative impacts or unintended consequences of the project that need to be addressed or mitigated against since the beginning, and how?

SUSTAINABILITY AND IMPACT

- What are the key considerations to ensure sustainability and impact?
- What could be barriers to achieving sustainability and impact?
- How can an exit strategy be better integrated from project startup?
- How can CRS effectively improve the project's design and implementation to achieve a more sustainable impact?

KEY PERFORMANCE INDICATORS

The APFL IV PMP requires that the majority of performance indicators be set to zero for the baseline evaluation. Indicators that are not set to zero are recorded in Table 2 below. These values represent data from both the external baseline evaluation conducted by STS and from CRS's internal monitoring data. Data provided by CRS is shaded grey and represents the full list of 309 intervention schools, while the evaluation data represents only the 69 sample schools.

Table 2: Key Performance Indicators at Baseline

Indicator Name	Indicator No.	Target	Baseline (2019)			Comments
			Male	Female	Total	
Percentage of students who, by the end of two grades of schooling, demonstrate that they can read and understand the meaning of grade-level text	MGD 1	25%	7.77%	3.11%	5.58%	
Percentage of students in target schools who indicate that they are hungry or very hungry during the school days	CRS Custom 3	N/A	1.08%	0.43%	0.78%	CRS school feeding not active at time of baseline
Average student attendance rate in USDA supported classrooms/schools	MGD 2	89%	70.9%	52.7%	61.8%	Per CRS monitoring data
Number of students enrolled in schools receiving USDA assistance (Primary School)	MGD 9	31,546	23,356	21,155	44,511	Per CRS monitoring data

Indicator Name	Indicator No.	Target	Baseline (2019)			Comments
			Male	Female	Total	
Percentage of pupils in classes 3 to 6 who dropped out of school at the end of the school year	CRS Custom 9	N/A	4.47%	4.42%	4.45%	
Percentage of participants of community-level nutrition interventions who practice promoted infant and young child feeding behaviors	MGD 21	TBD	98.27%			Calculated as number of MSG heads that identified at least one IYCF behavior
Percentage of students in target schools who achieve a passing score on a test of good health and hygiene practices	CRS Custom 10	0	42.04%	43.53%	42.74%	
Percentage of food preparers at target schools who achieve a passing score on a test of safe food preparation and storage	CRS Custom 12	0	37.25%			Sex of food preparers not captured
Number of schools using an improved water source	MGD 27	46	161			Per CRS monitoring data
Number of schools with improved sanitation facilities	MGD 28	169	228			Per CRS monitoring data

METHODOLOGY

This section describes the methods used to address the study's research questions, including the research approach, evaluation tools, sampling method, data collection and analysis, and study limitations.

Research Approach

The baseline evaluation of the APFL IV project was a mixed-method study that established baseline values and targets for the project's performance indicators and provides information for evidence-based decision making regarding the design and assumptions of the APFL IV project.

Data were collected from a clustered sample of the 309 APFL IV intervention schools in June 2019 using a suite of quantitative and qualitative tools. Diverse groups of stakeholders were included to provide broad perspectives for the project—pupils, teachers, head teachers, SMC chairpersons, CTA chairpersons, school food preparers, the heads of the MSGs, community members, and staff from partner organizations. Pupils' enrollment and attendance rates, literacy

and attentiveness levels, and knowledge and use of health, hygiene, and dietary practices were measured. Similarly, data on teachers' attendance, motivation, and knowledge and use of teaching practices were collected.

EVALUATION TOOLS

The APFL IV baseline data collection utilized evaluation tools from previous phases of the APFL project. The tools include a literacy assessment and pupil survey, classroom and school observation checklists, school-based stakeholder surveys, and community FGD questionnaire, and government and partner KII questionnaires. The tools were reviewed by STS and CRS prior to data collection. Specific revisions were made to ensure that the literacy assessment followed best practices in assessment design and that the survey tools were responsive to APFL IV's performance monitoring plan (PMP) and project-level implementation questions.

Literacy Assessment

STS administered a baseline literacy assessment to class 2 pupils to measure their core early grade reading skills. The assessment was adapted from a national literacy assessment tool originally developed by UNICEF. The assessment contained seven untimed subtasks, which were administered in English: alphabet naming, phonemic awareness, familiar word reading, invented word reading, reading passage, reading comprehension, and listening comprehension. Table 3 provides a summary of the subtasks.

Table 3: Literacy Assessment Subtasks

Subtask	Core Reading Skill	Subtask Description
Alphabet Naming	Alphabet knowledge	Provide the name of 51 letters presented in both uppercase and lowercase in a random order.
Phonemic Awareness	Phonemic awareness	Identify the words represented by 10 pictures and give the sound of the first letter of each word represented.
Familiar word reading	Word recognition	Read 40 familiar words that are randomly ordered and drawn from a list of frequent words.
Invented word reading	Decoding	Make letter-sound correspondences through the reading of 25 simple nonsense words.
Reading passage	Decoding and reading	Read a short, grade-appropriate passage of 36 words with accuracy and little effort.
Reading comprehension	Reading comprehension	Respond correctly to five questions, including four literal questions and one inferential question, about the passage read in the previous subtask.
Listening comprehension	Listening comprehension and	Listen to a text the enumerator reads aloud, and respond correctly to four questions,

Subtask	Core Reading Skill	Subtask Description
	oral language	including three literal questions and one inferential question, about the text.

The literacy assessment was administered by enumerators at the school on tablets using Tangerine®, an electronic data collection software.

School-based Surveys and Observation Checklists

For a comprehensive picture of a sampled school's environment, numerous data points were collected at the school level. Seven surveys and two observation checklists from previous phases of the APFL project were used to collection information at each school (Table 4).

Table 4: School-based Surveys and Observation Checklists

Tool	Types of information collected
Pupil Survey	Availability of teaching and learning materials and activities; frequency and sufficiency of meals at home and school; knowledge of and demonstration of good health and hygiene practices.
Teacher Survey	Levels of teacher certification; in-service training and coaching; knowledge and use of teaching techniques; motivating factors; satisfaction with the APFL project.
Head Teacher Survey	MBSSE status; enrollment and attendance data; teacher training, attendance, and retention information; school infrastructure details; teaching and learning materials available; school activities and support structures.
Food Preparer Survey	Training received; knowledge of safe food preparation and storage practices; challenges in role,
SMC Chairperson Survey	Trainings received; committee operations; role in school feeding program.
CTA Chairperson Survey	Association operations; school engagement.
MSG Head Survey	Group operations and activities; knowledge of and use of nutrition, health, and sanitation practices.
Classroom Observation Checklist	Physical attributes of the classroom; presence and use of teaching and learning materials in the classroom; evidence of pupil attentiveness.

Tool	Types of information collected
School Observation Checklist	Physical attributes of the school, including those overall and with classrooms, sanitation facilities, food preparation and storage areas, and other spaces; inventory of teaching and learning materials in the classrooms.

Community Focus Group Discussions and Key Informant Interviews

In addition to the surveys conducted at the school, the baseline evaluation included focus group discussions (FGD) with community members and in-depth key informant interviews (KIIs) with stakeholders from the Ministry of Basic and Senior and Secondary Education (MBSSE), the National School Feeding Secretariat (NSFS), and partner organizations. Enumerators conducted interviews using structured questionnaires from previous phases of the APFL project that were adapted by STS for the baseline evaluation. The interview guides for FGDs and KIIs can be found in Annex J.

SAMPLING APPROACH AND SAMPLE SIZE

For the baseline evaluation, a *two-stage cluster* sampling approach was used. Attributes such as district location and APFL status—continuing versus new—were accounted for within the sample. First, schools were randomly selected as clusters. With each sampled school unit, enumerators conducted KIIs with the head teacher, the SMC chairperson, the CTA chairperson, the head of the MSG, and two food preparers. For the second stage of sampling, STS randomly selected ten pupils from those present in class 2 at each sample school, who participated in the literacy assessment and pupil survey, and up to three teachers representing classes 2, 3, and 4, who participated in the teacher survey and classroom observation. A list of appropriate replacement schools was also created in case the original sample schools were unavailable or difficult for enumerators to reach.

The resulting target sample size was 70 schools and 700 pupils—ten pupils, five girls and five boys, from each school. Of the 70 schools, 43 schools (61.43 percent) are continuing from APFL III while 27 are new schools under APFL IV (38.57 percent). With one representative from each school, the target sample size for the head teachers, SMC chairpersons, CTA chairpersons, and MSG heads was 70 per survey. The project sought to survey all food preparers and teachers for classes 2, 3, and 4, leading to a maximum of 140 food preparers and 210 teachers in the sample. A more detailed description of the sampling approach can be found in Annex A.

DATA COLLECTION

This section describes baseline operational data collection, including enumerator training, data collection, and data management and analysis.

Recruitment and Training of Enumerators

A local firm, Dalan Development Consultants, was contracted to conduct the baseline data collection in June 2019. Dalan recruited 46 participants for the data collection from their pool of

data collectors, 16 of whom had prior experience collecting data for the APFL project during a previous phase.

From June 10 to 14, 2019, STS and CRS trained the participants on the evaluation tools and protocols. The five-day training in Freetown covered the contents of the literacy assessment subtasks and school-based surveys, administration protocols for the data collection software and use of tablets, ethical considerations, and the responsibilities of enumerators and supervisors during data collection. Although some sessions were held with the full group of participants, three concurrent trainings were held during the week—one for the enumerators responsible for the literacy assessment, one for the enumerators responsible for conducting the school-based surveys and observation checklists, and one for the enumerators responsible for the FGDs and KIIs. The training included one day of field testing in nearby non-intervention schools in Freetown.

School-based Data Collection

The baseline data collection was conducted in the Koinadugu and Falaba districts from June 17 to 24, 2019. Thirteen teams of three—consisting of two enumerators who administered the literacy assessment and pupil survey and one enumerator who conducted the school-based surveys—visited one school per day. Within each team, one enumerator was designated as the supervisor responsible for introducing the teams to the school and conducting the classroom and pupil sampling.

Of the 70 sample schools, 69 were visited during the data collection. One school had been completely destroyed by cattle, and an appropriate replacement school was not available in the area. Further impacting the response rates, the enumerators found many schools did not yet have food preparers or MSGs as implementation of the food service had not yet begun under APFL IV. Enumerators also encountered many multi-level classrooms, which limited response rates for the classroom observations and teacher surveys.

Table 5: Sample Targets and Response Rates

Group	Target sample number	Actual number of responses	Response rate
Schools	70	69	98.57%
Pupils	700	682	97.43%
Teachers*	210	145	69.05%
Classroom observation	210	179	85.24%
School Observations	70	68	97.14%
Head Teachers	70	68	97.14%
Food Preparers**	140	87	62.14%
SMC Chairpersons	70	67	95.71%
CTA Chairpersons	70	61	87.14%
Mothers Support Group representatives**	70	66	94.29%

* Many schools had multi-level classrooms and teachers, so it was often not possible to interview three teachers at a sample school.
** As of the baseline data collection, not all sampled schools had employed food preparers or MSGs yet.

Focus Group Discussions and Key Informant Interviews

During data collection, two teams of enumerators facilitated twelve FGDs—one all-male group and one all-female group in six communities within the intervention districts. The team from CRS and STS conducted a purposeful sample of communities for the FGD sessions in advance of the data collection in order to ensure a wide range of geographic and programmatic experiences were represented in the qualitative data. Upon their arrival in each community, enumerator teams sought the approval of the community chief to lead FGDs. CRS provided a letter of introduction to support this process. If approval was granted, the community chief assisted with the mobilization of participants—drawing from parents or caregivers of pupils in classes 1 through 6, teachers, youth leaders, religious leaders, members of the SILCs, and school representatives. Participants of the school-based surveys were excluded from FGDs. The community chief was also exempted from FGD sessions to avoid any bias or influence.

One enumerator conducted four in-person KIIs with key stakeholders from APFL's partners at Caritas Makeni, Ernest Bai Koroma University, the MBSSE, and the Ministry of Agriculture, Forestry, and Food Security. A member of STS's team conducted three remote interviews, using Skype© or the phone, with members of the NSFS and the MoHS in Freetown.

Enumerators transcribed the FGDs and KIIs, and sessions were recorded digitally through audio recorders to minimize potential transcription errors.

DATA QUALITY, MANAGEMENT, AND ANALYSIS

Data Monitoring and Quality Assurance

Throughout data collection, Dalan's field coordinator and STS's program coordinator monitored the incoming data. Dalan's field coordinator visited multiple schools in person to conduct on-site spot checks and troubleshoot any issues encountered by teams in the field. Communication with the enumerator teams was maintained through a WhatsApp© group comprised of team supervisors; this allowed for wider communication and faster responsiveness when issues arose in the field. However, due to severe connectivity issues in the communities, many enumerator teams were unable to upload their data electronically each day. In some cases, data could not be uploaded until the teams returned to Freetown. This impeded the real-time data tracking activities of the field coordinator and program coordinator.

Dalan's staff ensured data collection procedures were followed and submitted a field report that logged any discrepancies in the number and type of data collected prescribed in the targeted sample. STS later cross-referenced these reports against the uploaded data from the Tangerine software. Disposition codes were applied to categorize any issues that emerged during the data collection process. The coding and flagging procedures helped to ensure the nuanced contexts of data collection at the school level were sufficiently cataloged and considered during the data cleaning, analysis, and reporting process.

Data Analysis

Sample Weighting

The analysis used sampling weights to produce more representative estimates in the sample of pupils. Although random sampling does not acknowledge that some pupils have a lower probability of being selected when they represent smaller subgroups within the population, sampling weights allow the analysts to account for these differences in probabilities.

STS computed the weights using background data available from each school in the sample populations, including the number of class 2 classrooms at the school and the number of pupils in each classroom. CRS collected this information via the head teacher survey. Weights were applied when analyzing the literacy assessment and survey results. A combined school and pupil weight was used for all pupils, while the school weight was applied to all school-based surveys.

Generation of Findings

Throughout July and August 2019, STS generated the following descriptive statistics using the baseline data:

- **Mean scores*:*** Average percentage of items answered correctly on a given subtask;
- **Zero scores**: Proportion of pupils who were unable to answer a single item correctly on a given subtask;
- **Proportions**: Proportion of respondents who replied in a specific way to an item; and
- **Means**: Average score on survey items.

Analysts computed inferential statistics on subtask mean scores to determine differences in performance between girls and boys. Where detected, statistically significant differences are noted in tables.

LIMITATIONS

The following limitations should be considered when reviewing the findings of the APFL IV baseline:

- **Use of tools from previous APFL phases.** The baseline data collection utilized several tools from previous APFL evaluations. While these tools were reviewed and updated to a certain level, the tools were not fully aligned with the most recent recommendations from literacy research. For example, the subtasks were untimed which allowed STS to calculate pupils' accuracy—scored as the average number of items correct—but did not allow for pupils' fluency to be measured, which is a critical component of pupils' literacy. Furthermore, 51 letters were included for the alphabet naming subtask. Current best practice is to include 100 letters arranged in a grid format. Lastly, a picture stimulus was used for the phonemic awareness subtask with is out of alignment with current practice for this subtask.
  Additionally, since the evaluation team relied on prior pilots of the surveys, STS was unable to examine the extent of any potential social desirability bias inherent in the tools,

as well as their cultural relevance and appropriateness. STS believes no additional bias was introduced as a result of the training and recruitment of the enumerators was done in a way to ensure they had no inherent interest in the outcomes of the study.
Lastly, the instructions for the data collection were in English. Based on the results from the listening comprehension task, it is likely that many students struggle with listening comprehension and therefore may not have understood the tasks.

- **Delays in uploading data due to poor connectivity.** Poor connection in more remote communities was a critical challenge during data collection. While the data being collected was stored within the software on the tablets, enumerators were unable to upload the data to the server each day as instructed. This limited the ability of the field coordinator and program coordinator to properly monitor the data as it was coming in and resolve problems as they were happening. Despite these challenges, the data quality is strong thanks to redundant data quality processes put into place to address this potential challenge.
- **Lower response rates than anticipated for school surveys.** The sampling approach called for three teachers to be surveyed and three classrooms to be observed at each school—one each for classes 2 through 4. However, when enumerators arrived, there were fewer eligible teachers and classrooms to include as a result of the multi-level classrooms. There were also fewer MSG heads and food preparers to survey than recommended as many sampled schools are new to the APFL project and have not yet established these positions.
- **Inherent bias in sampling children present on day of assessment.** Pupils' literacy assessment results may be biased towards the types of students who attend regularly and may exclude those pupils who are enrolled by do not attend regularly. However, this random method of sampling on the day of the assessment is preferable to sampling pupils in advance, as it may create opportunities for manipulation to have only high performers participate. This sampling approach will remain the same at future assessments and therefore the comparison across timepoints will be valid.

FINDINGS

The findings presented here correspond to the APFL IV project's results framework, SOs, and PMP's indicators. Although baseline values are not required of all indicators, this report presents descriptive baseline findings to provide supplemental contextual information for the project.

SO1: IMPROVED LITERACY OF SCHOOL-AGED CHILDREN

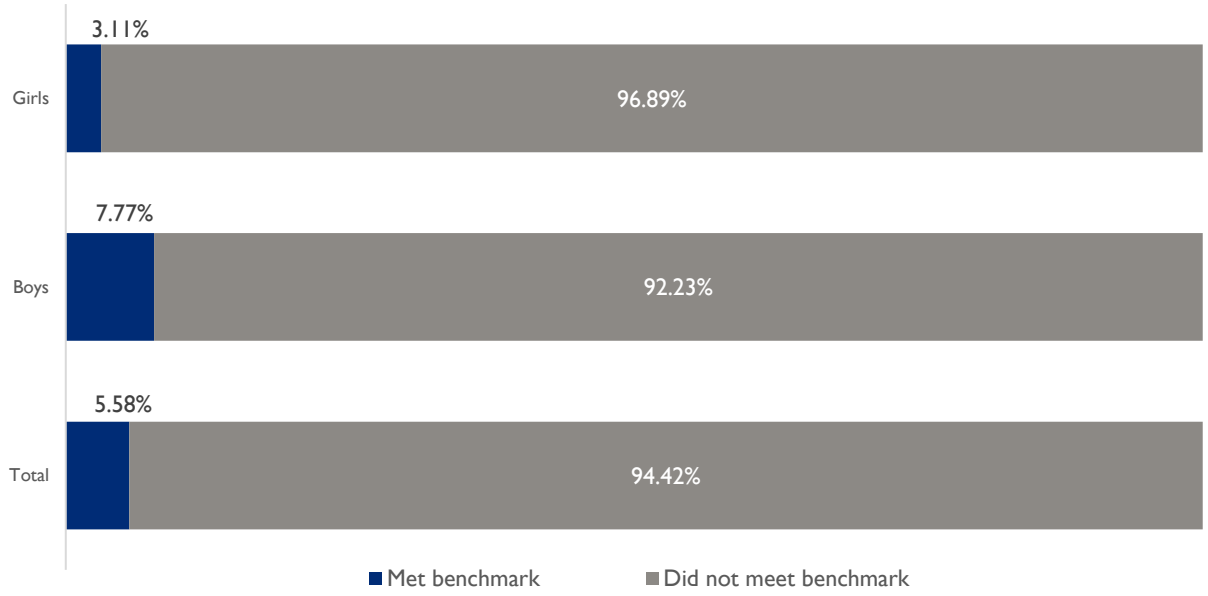
The first SO of the APFL IV project is the improved literacy of school-aged children. Achievement of this SO is measured through *indicator 1.0.0.1: Percentage of students who, by the end of two grades of schooling, demonstrate that they can read and understand the meaning of grade-level text* (McGovern-Dole Indicator #1). According to the project's PMP, this indicator will measure the proportion of pupils who attain a specified threshold at the end of class 2. The specified threshold used in this analysis was defined as the ability to correctly answer at least four of the five reading comprehension questions correctly.[9]

Baseline values for indicator 1.0.0.1 were captured by administering the APFL IV literacy assessment to boys and girls at the end of class 2. Results for indicator 1.0.0.1 are presented in Figure 4. Per the definition of indicator 1.0.0.1, 5.58 percent of pupils at the end of class 2 could read and understand the meaning of grade-level text at baseline. The proportion meeting the threshold was lower for girls (3.11 percent) than it was for boys (7.77 percent). Overall, of the 682 pupils assessed, 94.42 percent did not correctly answer at least four reading comprehension questions.[10]

[9] Catholic Relief Services, "Final Evaluation of Phase III of The McGovern-Dole Food For Education Project (MGD III) In Sierra Leone," August 8, 2018.

[10] Additional results comparing continuing and new APFL schools can be found in Annex B.

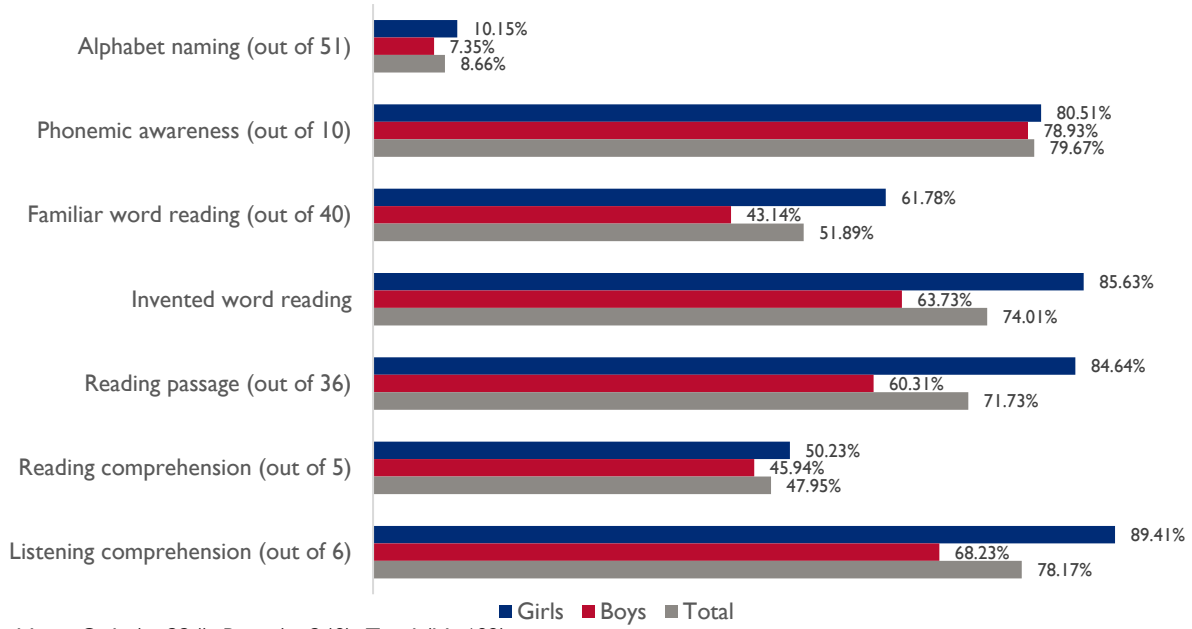
Figure 4: Percentage of Pupils Reaching Literacy Threshold by Sex



Note: Girls (n=334); Boys (n=348); Total (N=682)

The proportions of pupils who did not answer a single item correct across subtasks—known as zero scores—are presented in Figure 5. The proportion of pupils receiving zero scores was lowest on the alphabet naming subtask (8.66 percent) and highest on the phonemic awareness subtask (79.67 percent). Across all subtasks, boys had a lower proportion of zero scores than did girls.

Figure 5: Percentage of Pupils Receiving Zero Scores by Sex



Note: Girls (n=334); Boys (n=348); Total (N=682)

Mean scores for other literacy assessment subtasks are presented in the following section to allow for a better understanding of pupils' reading performance. Statistical significance tests were performed to analyses the difference in mean scores between boys and girls; statistically significant differences are noted under each table.

Alphabet Naming

In the alphabet naming subtask, enumerators presented pupils with a grid of 51 letters in uppercase and lowercase and asked students to say the name of the letter.[11] The alphabet naming subtask measures pupils' knowledge of letters of the alphabet and their ability to recognize the graphemic features of each letter.

Baseline results for the alphabet naming subtask are presented in Table 6. On average, pupils named 36.57 letters correctly out of 51. Boys had statistically significantly higher mean scores than did girls; boy, on average, named nearly five more letters than girls did.

Table 6: Alphabet Naming Mean Scores by Sex (Correct out of 51)

Sex	N	Mean Score	Standard Error
Girls	334	34.06	0.94
Boys	348	38.79**	0.83
Total	682	36.57	0.63

Note: Two asterisks (**) denotes that boys' scores are statistically significantly higher than girls' scores at the p<0.01 level.

Phonemic Awareness

For the phonemic awareness subtask, enumerators provided pupils with clipart pictures of 10 common objects and read the name of the object out loud to the pupils. Pupils were asked to say the initial sound of the object's name. The phonemic awareness subtask measures pupils' awareness of phonemes and their ability to distinguish among multiple phonemes.

Baseline results for the phonemic awareness subtask are presented in Table 7. Out of a total of 10 possible items, pupils correctly identify the initial sound of 1.06 items on average. There was no significant difference between girls' and boys' scores.

Table 7: Phonemic Awareness Mean Scores by Sex (Correct out of 10)

Sex	N	Mean Score	Standard Error
Girls	334	0.94	0.13
Boys	348	1.16	0.14
Total	682	1.06	0.09

[11] This subtask was modified from the APFL III literacy assessment, which contained 26 letters in a diamond-shape. The number of items was increased for the APFL IV literacy assessment to ensure that each letter appeared both in its lowercase and uppercase forms.

Familiar Word Reading

The familiar word reading subtask consisted of a list of 40 familiar words that were presented to pupils in a grid. Pupils were asked to read as many of the familiar words as they could out loud.[12] Familiar word reading measures pupils' sight-word recognition and decoding skills.

Baseline results for the familiar word reading subtask are presented in Table 8. Pupils correctly read an average of 11.60 familiar words at baseline. Boys read nearly twice as many words correctly as girls did—14.98 familiar words versus 7.78 familiar words, respectively. The difference between girls' and boys' mean scores was statistically significant.

Table 8: Familiar Word Reading Mean Scores by Sex (Correct out of 40)

Sex	N	Mean Score	Standard Error
Girls	334	7.78	0.67
Boys	348	14.98**	0.80
Total	682	11.60	0.54

Note: Two asterisks (**) denotes that boys' scores are statistically significantly higher than girls' scores at the p<0.01 level.

Invented Word Reading

For the invented word reading subtask, pupils were presented with a grid of 25 made-up words that follow the phonological and spelling rules of English but are not actual words in the language. Enumerators asked pupils to read aloud as many nonwords as they could.[13] Invented word reading measures pupils' decoding skills.

Baseline results for the invented word reading subtask are presented in Table 9. Out of 25 items, pupils correctly read 3.31 invented words on average. Boys outperformed girls, reading 4.88 invented words correctly compared with 1.54, on average; this difference was statistically significant.

Table 9: Invented Word Reading Mean Scores by Sex (Correct out of 25)

Sex	N	Mean Score	Standard Error
Girls	334	1.54	0.24
Boys	348	4.88**	0.38
Total	682	3.31	0.24

Note: Two asterisks (**) denotes that boys' scores are statistically significantly higher than girls' scores at the p<0.01 level.

[12] The items included in the familiar word subtask were consistent across the APFL III and IV literacy assessments. The familiar words on the APFL IV assessment were rerandomized within lines. One item—"play"—appeared twice in the grid.

[13] Several updates were made to this subtask from APFL III to APFL IV. Four invented words that were homophones of either familiar words or proper nouns were modified by changing one letter. All invented words were presented in lowercase letters.

Reading Passage and Reading Comprehension

For the reading passage and reading comprehension subtasks, pupils were presented with a short story of 41 words and were asked to read as much of the story out loud as they could. After finishing, enumerators read five comprehension questions—four direct and one inferential—out loud to pupils to test their understanding of the content of the story.[14] These two subtasks measure decoding and reading comprehension.

Baseline results for the reading passage subtask are presented in Table 10. From a short story of 41 words, pupils correctly read 7.59 words on average. While boys correctly read about 26 percent of the words (10.89 words), girls only read about 9 percent of the words (3.87 words) correctly. The difference in mean scores between girls and boys was statistically significant.

Table 10: Reading Passage Mean Scores by Sex (Correct out of 41)

Sex	N	Mean Score	Standard Error
Girls	334	3.87	0.54
Boys	348	10.89**	0.76
Total	682	7.59	0.49

Note: Two asterisks (**) denotes that boys' scores are statistically significantly higher than girls' scores at the p<0.01 level.

Baseline mean scores for the reading comprehension subtask are presented in Table 11. Overall, pupils were able to answer less than one reading comprehension question correctly at baseline. Boys had statistically significantly higher mean scores than girls did on the reading comprehension subtask.

Table 11: Reading Comprehension Mean Scores by Sex (Correct out of 5)

Sex	N	Mean Score	Standard Error
Girls	334	0.31	0.05
Boys	348	0.86**	0.08
Total	682	0.60	0.05

Note: Two asterisks (**) denotes that boys' scores are statistically significantly higher than girls' scores at the p<0.01 level.

The distribution of pupils able to answer reading comprehension questions correctly is detailed in Table 12. Overall, nearly four out of five pupils (78.17 percent) were unable to correctly answer a single reading comprehension correctly.[15]

[14] Three items on the reading passage were updated from the APFL III to the APFL IV literacy assessment. All five comprehension questions were also updated to better align with the story and with common early grade literacy assessment guidance.

[15] Significance tests were not conducted on the distribution of correct reading comprehension questions by sex.

Table 12: Distribution of Correct Reading Comprehension Questions by Sex

Number of Questions Correct	Girls	Boys	Total
0	89.41%	68.23%	78.17%
1	1.19%	7.22%	4.39%
2	2.69%	7.05%	5.00%
3	3.60%	9.73%	6.85%
4	1.95%	3.56%	2.80%
5	1.17%	4.21%	2.78%

Listening Comprehension

The listening comprehension subtask consists of a short story of 40 words, which was read out loud by the enumerator to the pupils. The enumerator then asked the pupil four comprehension questions related to the story—three direct and one inferential.[16] Listening comprehension measures pupils' overall oral language comprehension and vocabulary. Listening comprehension subtask complements the reading passage and comprehension subtasks as it enables a better understanding of whether pupils' comprehension difficulties are a result of reading skills or of overall language comprehension.

Baseline results for the listening comprehension subtask are presented in Table 13. Out of a possible four questions, pupils correctly answered, on average, 1.06 questions. There was no statistically significance difference between boys' and girls' performance.

Table 13: Listening Comprehension Mean Scores by Sex (Correct out of 4)

Sex	N	Mean Score	Standard Error
Girls	334	1.00	0.07
Boys	348	1.11	0.07
Total	682	1.06	0.05

IR1.1 Improved Quality of Literacy Instruction

The first intermediate result (IR) under SO1 is the improved quality of literacy instruction. Four outputs are associated with this IR:

- 1.1.1 More consistent teacher attendance
- 1.1.3 Improved literacy instructional materials
- 1.1.4 Increased skills and knowledge of teachers
- 1.1.5 Increased skills and knowledge of school administrators

Baseline findings are presented for each output to provide relevant contextual information at the start of APFL IV.

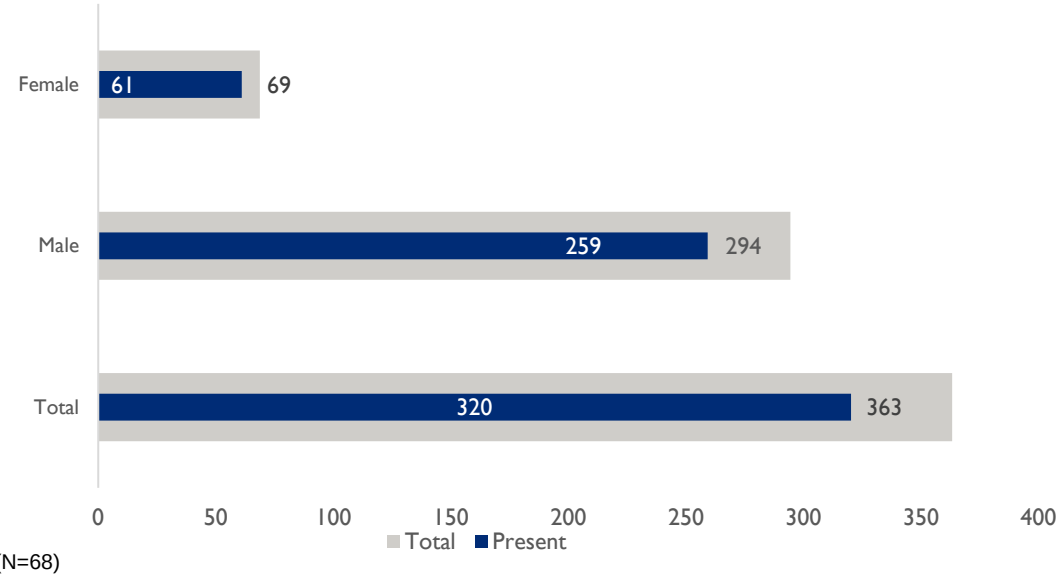
[16] One of the listening comprehension questions was updated from the APFL III to the APFL IV literacy assessment.

1.1.1 More Consistent Teacher Attendance

At baseline, head teachers were asked a series of questions about teacher attendance and documentation of teacher attendance at the school level. Of the 68 head teachers interviewed, 62 (92.06 percent) reported that their school had a time book for recording daily teacher attendance.

Teacher attendance results are reported in Figure 6. On the day of the interviews, 320 of an employed 363 (88.17 percent) teachers were present. Overall, 88.73 percent of female teachers and 88.04 percent for male teachers were present on the day their school was interviewed.

Figure 6: Total Number of Teachers and Number of Teachers in Attendance



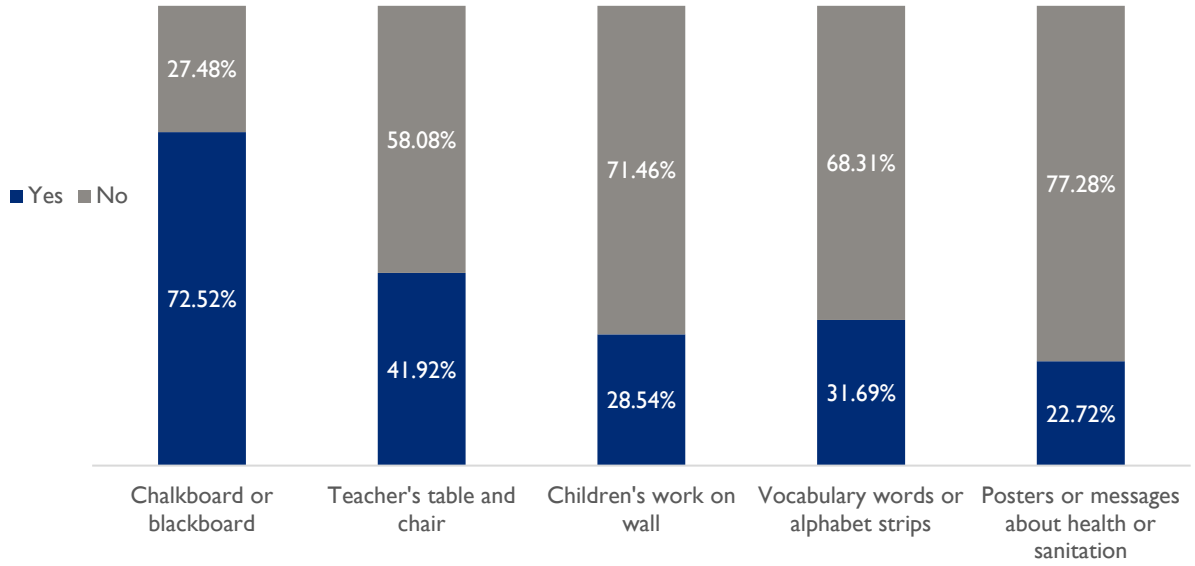
Note: Total (N=68)

1.1.3 Improved Literacy Instructional Materials

To understand the resources available in schools at baseline, enumerators inventoried classroom resources and furniture. Key findings from their observations are presented.

The classroom resources observed at baseline are detailed in Figure 7. Of the 179 classrooms observed, roughly three in four (72.52 percent) had a chalkboard or a blackboard. Less than half (41.92 percent) had a teacher's table and chair. Posters or messages about health or sanitation were present in 22.72 percent of classrooms.

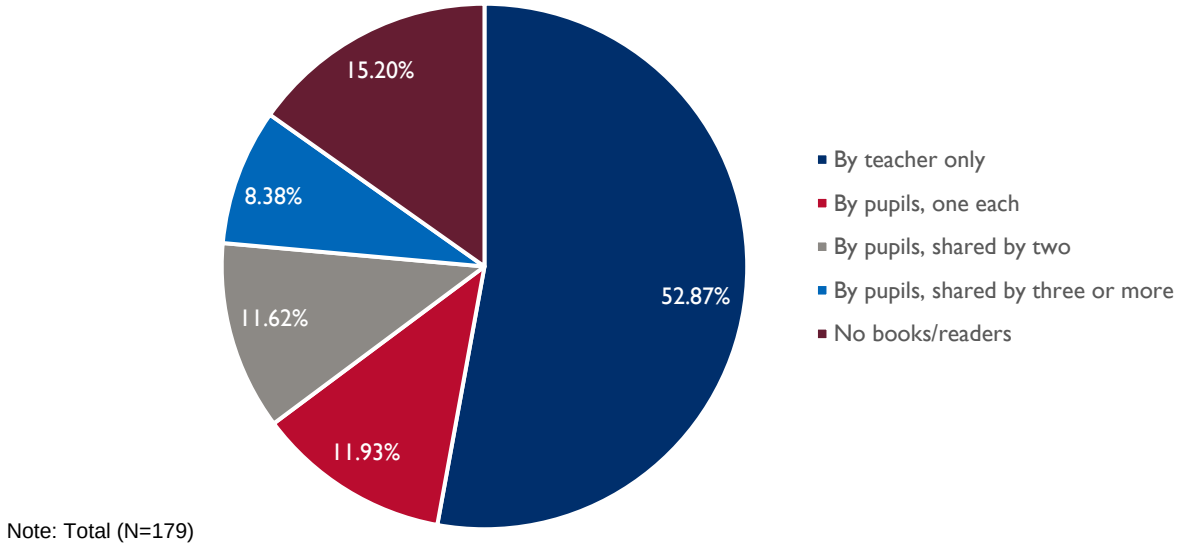
Figure 7: Classroom Resources Observed



Note: Total (N=179)

Enumerators also recorded the presence and prevalence of textbooks or readers in the classroom (Figure 8). In more than half of the classrooms (52.87 percent), textbooks or readers were only used by the teacher. When textbooks or readers were used by pupils, they were more often available one per pupil (11.93 percent) than shared by two (11.62 percent) or by three or more (8.38 percent). In 15.20 percent of classrooms, no textbooks or readers were observed.

Figure 8: Observed Use of Textbooks or Readers in the Classroom



Note: Total (N=179)

1.1.4 Increased Skills and Knowledge of Teachers

At baseline, 145 classroom teachers—50 from class 2, 46 from class 3, and 49 from class 4—were interviewed to gain an understanding of their credentials; their knowledge of good instructional practices and teaching techniques; the type of support they receive from coaches, head teachers, and MBSSE supervisors; and their teaching motivations.

Table 14 provides a summary of the demographic and educational characteristics of the classroom teachers interviewed. About four in every five teachers (82.60 percent) interviewed were male, and nearly half (46.15 percent) reported having a teaching certificate. Of those individuals with a teaching certificate, 57.90 percent had a Teachers Certificate (TC), and 33.99 percent had a TC-lower certificate. The majority (61.18 percent) of teachers report that their highest qualification completed was a West African Senior School Certificate Examination (WASSCE).

Table 14: Classroom Teacher Characteristics

Characteristic	Total	
	N	%
Sex		
Female	26	17.40%
Male	119	82.60%
Type of teaching certificate		
Has teaching certificate	68	46.15%
Teacher Elementary Certificate (TEC)	4	6.32%
Teachers Certificate Lower	24	33.99%
Teachers Certificate	39	57.90%
Teachers Certificate Higher	1	1.49%
Highest qualification		
Basic Education Certificate Examination	29	19.72%
West African Senior School Certificate Examination	88	61.18%
Ordinary Level	27	18.41%
Other	1	0.70%

Note: Total (N=145)

Teachers were also asked about their participation in the APFL IV project and in other types of trainings, and their responses are presented in Table 15. About half (50.73 percent) of teachers participated in the APFL IV project. Of the 145 teachers interviewed, 35.61 percent participated in a *diagnostic teaching methodologies* training during the academic year, and 29.88 percent responded that they or another teacher in their school had been trained in life skills areas.

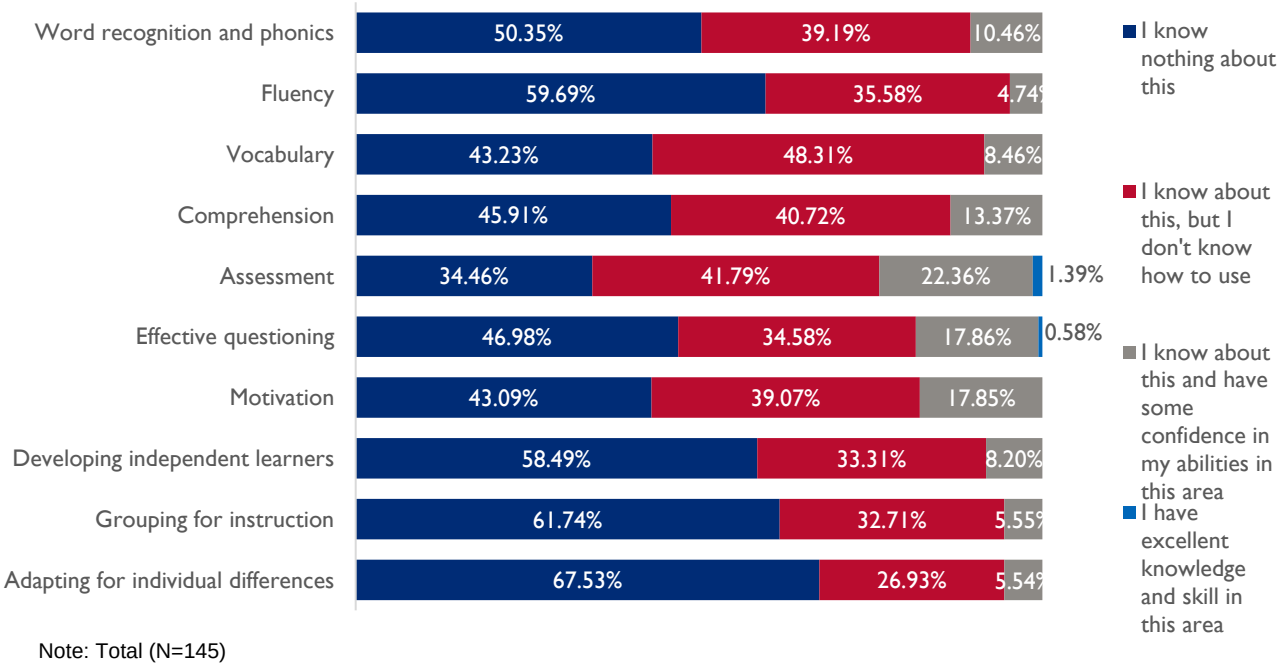
Table 15: Classroom Teacher Training Participation

Characteristic	N	Percentage of total
Has participated in the Food for Education program in the last academic year	75	50.73%
Has participated in a diagnostic teaching methodologies training by a literacy coach in academic year	54	35.61%
Engaged in a distance education course that will lead to a teaching certificate	32	21.15%
Has been trained in life skills areas in this school (responding teacher or any other teacher in the school)	46	29.88%

Note: Total (N=145)

Enumerators asked teachers about their level of knowledge of teaching techniques critical to the APFL IV program; results are presented in Figure 9. Over half of teachers reported knowing nothing about fluency, developing independent learners, grouping for instruction, and adapting for individual differences. Less than one-quarter of teachers reported having knowledge and confidence in their abilities across all techniques. The only techniques in which any teachers reported having "excellent" knowledge and skill were assessment (1.39 percent) and effective questioning (0.58 percent).

Figure 9: Teacher Knowledge of Teaching Techniques



Note: Total (N=145)

Of the 145 teachers interviewed, 75.97 percent reported having a lesson plan for that day, and 85.01 percent had access to a teacher's guide, either in the head teacher's office or in their classroom.

Table 16 reports on teachers' responses regarding the frequency of coaching and mentoring sessions they experienced during the past month and the previous academic year. Just over half (50.94 percent) of teachers said they were observed or mentored by a CRS literacy coach in the past month, and 56.43 percent of teachers reported being observed or mentored by an MBSSE inspector during the prior academic year. Almost all teachers (94.85 percent) said they had been observed or mentored by their head teacher during the previous academic year; of those, 87.15 percent said they were observed or mentored more than twice during the year.

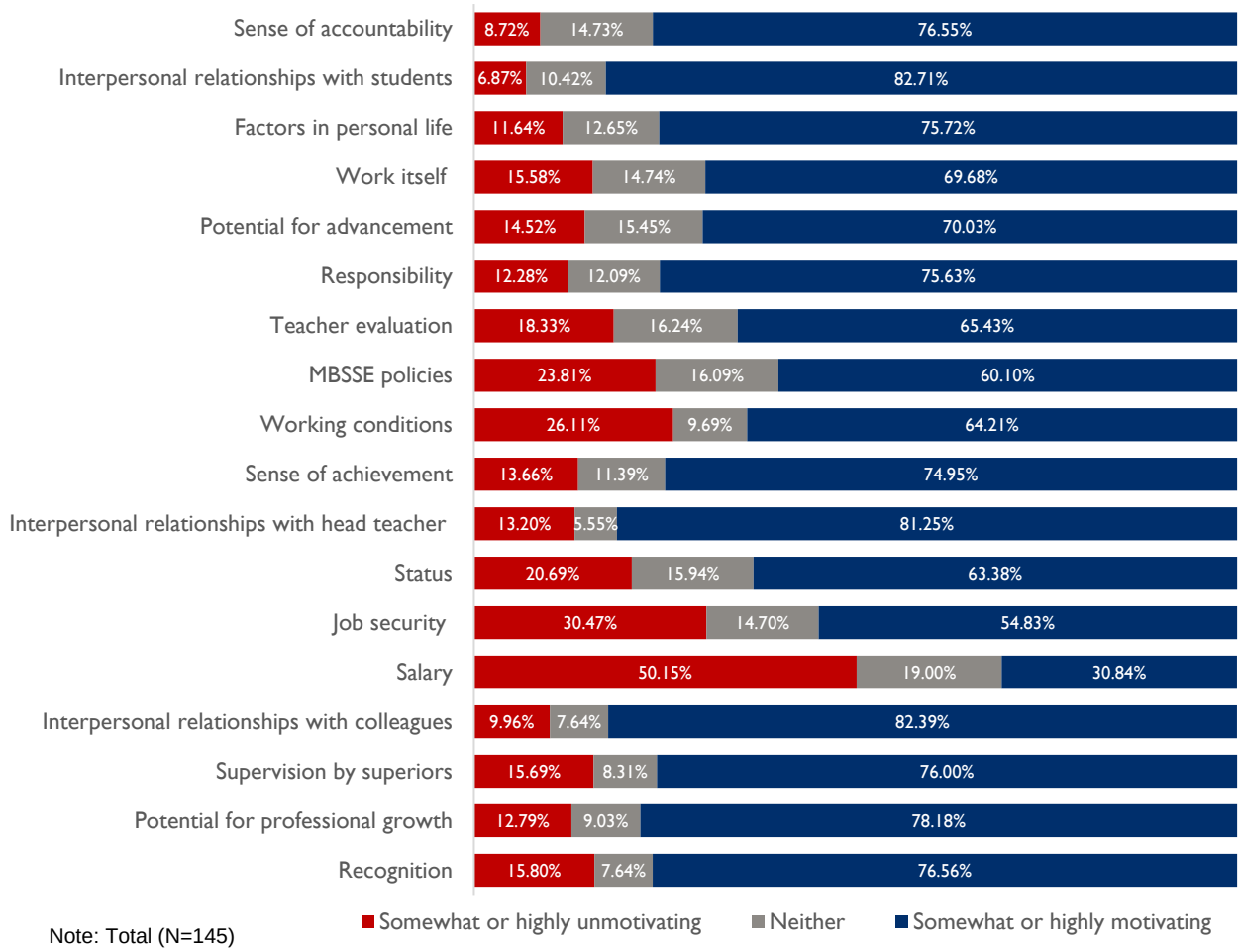
Table 16: Coaching and Mentoring Frequency

Type	N	Percentage of total
Observed or mentored by CRS literacy coach in past month	78	50.94%
Once in the month	38	46.99%
Twice in the month	18	24.12%
More than twice in the month	22	28.89%
Observed or mentored by head teacher in academic year	138	94.85%
Once in the year	11	7.35%
Twice in the year	8	5.50%
More than twice in the year	119	87.15%
Observed or mentored by MBSSE inspector this year	80	56.43%
Once in the year	20	23.60%
Twice in the year	28	36.19%
More than twice in the year	32	40.21%

Note: Total (N=145)

Finally, teachers were asked about what aspects of their job they find motivating; results are presented in Figure 10. Out of 18 categories included, the largest proportion of teachers were somewhat or highly motivated by interpersonal relationships with colleagues (82.39 percent) and interpersonal relationships with the head teacher (81.25 percent). Roughly half (50.15 percent) said they were somewhat or highly unmotivated by salary, and 30.47 percent said they were somewhat or highly unmotivated by job security.

Figure 10: Teacher Motivating Factors



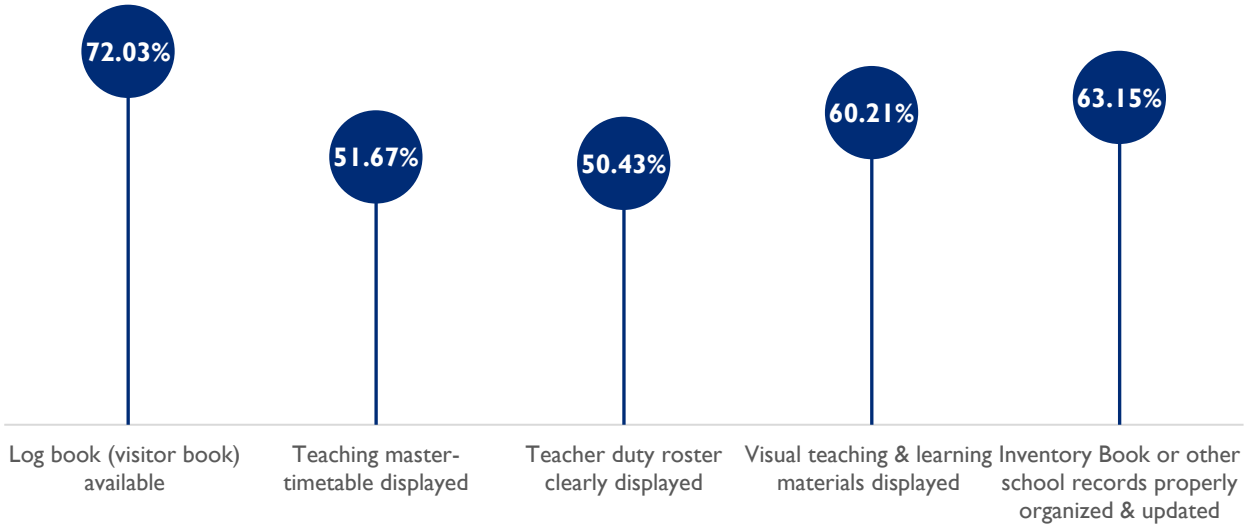
Note: Total (N=145)

1.1.5 Increased Skills and Knowledge of School Administrators

At baseline, 68 head teachers were asked questions about the type of training they received during the school year, and enumerators took note of specific improved tools or techniques demonstrated by head teachers. Out of those, 38 head teachers (55.39 percent) reported that they benefited from training by CRS or TALLE in diagnostic teaching methodologies in the past 12 months.

Enumerators also noted if specific techniques and tools were visible in the head teacher's office, and findings are presented in Figure 11. Out of the five techniques, the most frequently observed was a logbook or visitors' book, which was seen in 72.03 percent of head teacher's offices. About half (50.43 percent) of head teachers had a teacher duty roster clearly displayed in their office.

Figure 11: Percentage of Head Teacher Techniques and Tools Observed



Note: Total (N=68)

IR1.2 Improved Attentiveness

The second IR under SO1 is improved attentiveness. Enumerators observed pupils' attentiveness during class and evaluated it on a three-point scale of little, moderate, or extensive evidence of pupils following the teacher's instructions during the class period. This measure included observations of students listening and working without distraction, students' participation in lessons, and students asking questions or seeking help. Boys and girls were evaluated separately. On average, about 64.16 percent and 62.92 percent of girls and boys, respectively, were attentive to instructions.

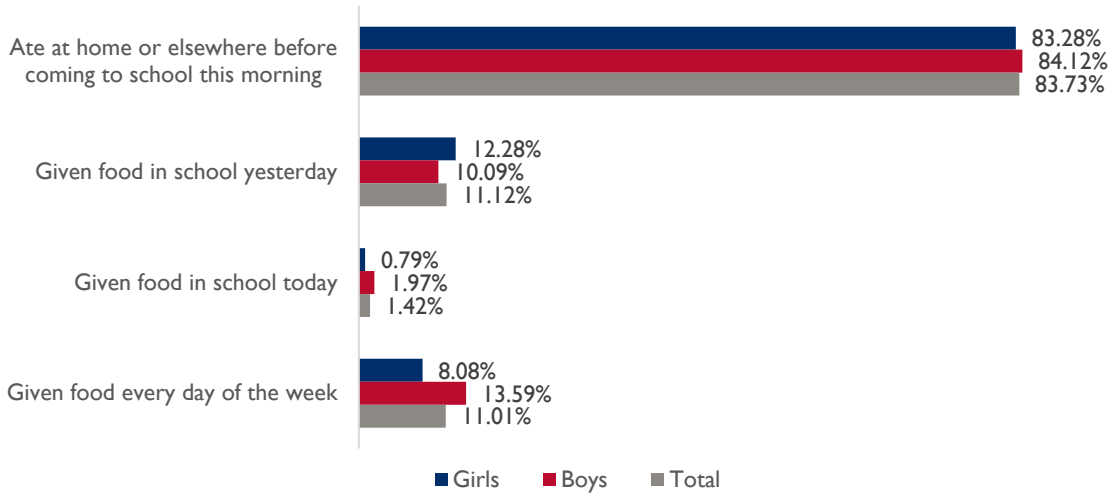
Additionally, two outputs are associated with this IR:

- 1.2.1 Reduced short-term hunger
- 1.2.2 Increased access to food (school feeding)

1.2.1 Reduced Short-term Hunger

Enumerators asked pupils about their access to food and feeding both at home and at school throughout a week. Results are presented in Figure 12. About four in five pupils reported that they had eaten at home or elsewhere before coming to school. While 11.12 percent of pupils said they were given food in school in the previous day, only 1.42 percent reported having been given food on the day of the assessment. At the time of data collection, CRS was not implementing their school feeding program at any of the sampled schools, as APFL III activities had ended in continuing schools and the APFL IV activities had not yet begun in new schools. As such, this low percentage of students reporting receiving food at school was expected.

Figure 12: Percentage of Pupils Receiving Food by Sex



Note: Girls (n=332); Boys (n=348); Total (N=680)

Pupils who reported having received food at school on the day of the assessment were asked about their level of hunger after eating; this question is in response to indicator *1.2.1.1 Percentage of students in target schools who indicate that they are hungry or very hungry during the school days*. Findings in Table 17 indicate that only 10 pupils reported receiving food in school on the day of the assessment. These results are corroborated by head teachers—only five (6.12 percent) head teachers reported that pupils had have or will receive food from CRS on the day of the assessment. When asked the reason that no food will be provided, 60.46 percent said that food supplies had run out and 36.43 percent said that there was no feeding program yet established at the school. This was anticipated as APFL IV activities had not yet begun at any school.

Of those pupils who received food at school on the day of the assessment, five (0.64 percent) reported not being hungry at all or had enough food and five (0.78 percent) reported being somewhat hungry or had some food but not enough. No pupils reported being very hungry after receiving food at school on the day of the assessment.

Table 17: Pupils' Reported Hunger Status or Access to Food by Sex

Response	Girls		Boys		Total	
	n	%	n	%	N	%
Not hungry at all (had enough food)	2	0.36%	3	0.90%	5	0.64%
Somewhat hungry (had some food but not enough)	2	0.43%	3	1.08%	5	0.78%
Very hungry	0	0.00%	0	0.00%	0	0.00%
Missing/did not receive food at school on day of assessment	328	99.21%	342	98.03%	670	98.58%

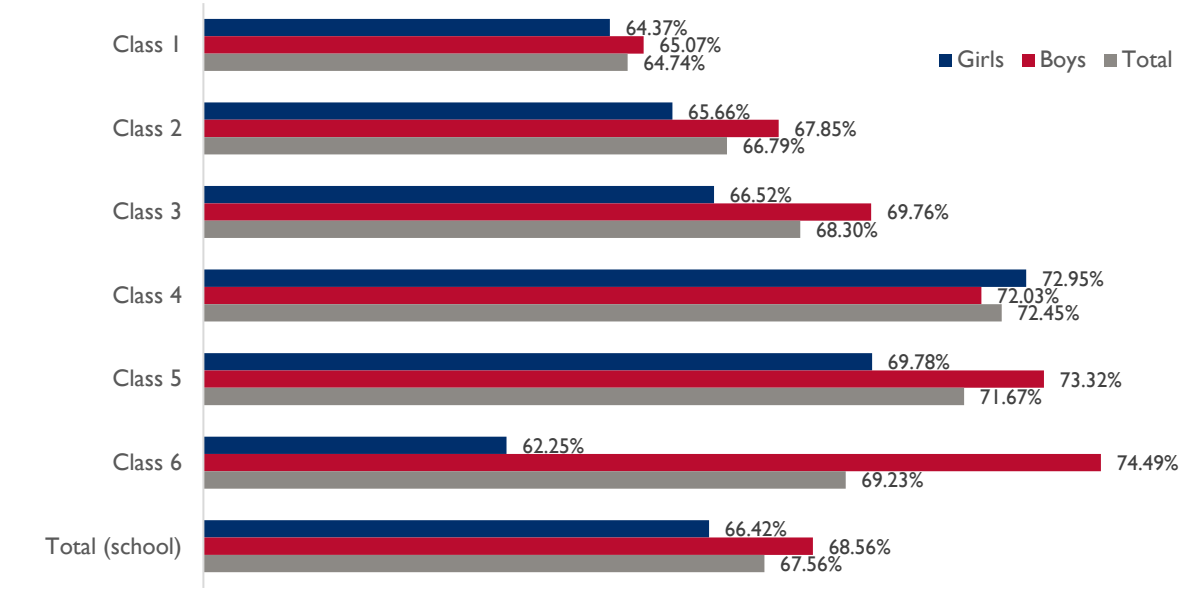
IR1.3 Improved Pupil Attendance

The third IR under SO1 is improved pupil attendance. According to CRS's baseline monitoring data across the 309 intervention schools, the overall attendance rate is 61.8 percent for pupils—70.9 percent for boys and 52.7 percent for girls. For this monitoring data, head count attendance data were collected and averages were taken.

While the data above is representative of the overall monitoring data on attendance collected by CRS across all project schools, the study was able to collect more detailed information on the sampled schools. Analysis of the data from sampled schools only is included below.

For sampled schools only, enumerators asked head teachers of sample schools to report the total number of pupils enrolled and attending school, by class and sex, to respond to indicator *1.3.0.1 average student attendance rate in USDA supported classrooms/schools*. Attendance rates, calculated as the number of pupils attending divided by the number of pupils enrolled, are presented in Figure 13. Within the sample schools, the average school-level attendance rate was 67.56 percent, with girls attending at a rate of 66.42 percent and boys at a rate of 68.56 percent. Boys appeared to have slightly higher attendance rates overall (68.56 percent) and across class, except for class 4, in which girls had higher attendance rates.

Figure 13: Attendance Rates by Class and Sex



Note: Total (N=68)

Three outputs are associated with this IR:

- 1.3.3 Improved school infrastructure
- 1.3.4 Increased pupil enrolment
- 1.3.5 Increased community understanding of the benefits of education

1.3.3 Improved School Infrastructure

Enumerators observed the physical infrastructure of the 69 sample schools, and key findings are presented in Table 18. A majority of sample schools (89.77 percent) had corrugated metal sheets made of zinc as the main material of the roof; most schools had polished concrete walls (60.57 percent) and concrete floors (68.93 percent). About half (51.09 percent) of schools had kitchens available for cooking food, while 62.81 percent of schools had storerooms or storage facilities.

Table 18: Sample School Infrastructure Characteristics

Characteristic	n	% of Total
Main material of roof		
Corrugated metal sheets (zinc)	61	89.77%
Asbestos	0	0.00%
Concrete	0	0.00%
Thatch	6	8.78%
Tarpaulin (plastic sheet)	1	1.45%
Main material of walls of building		
Concrete polished wall	42	60.57%
Mud polished	11	15.45%
Concrete unpolished wall	1	1.47%
Mud unpolished	8	13.50%
Metal sheets (pan body)	0	0.00%
Thatch	3	4.66%
Tarpaulin (plastic sheet)	0	0.00%
Other	3	4.35%
Main material of floor of building		
Concrete floor	48	68.93%
Earth floor	20	31.07%
Kitchen available for cooking food	36	51.09%
Storeroom or storage facility in school	45	62.81%

Note: Total (N=68)

1.3.4 Increased Pupil Enrollment

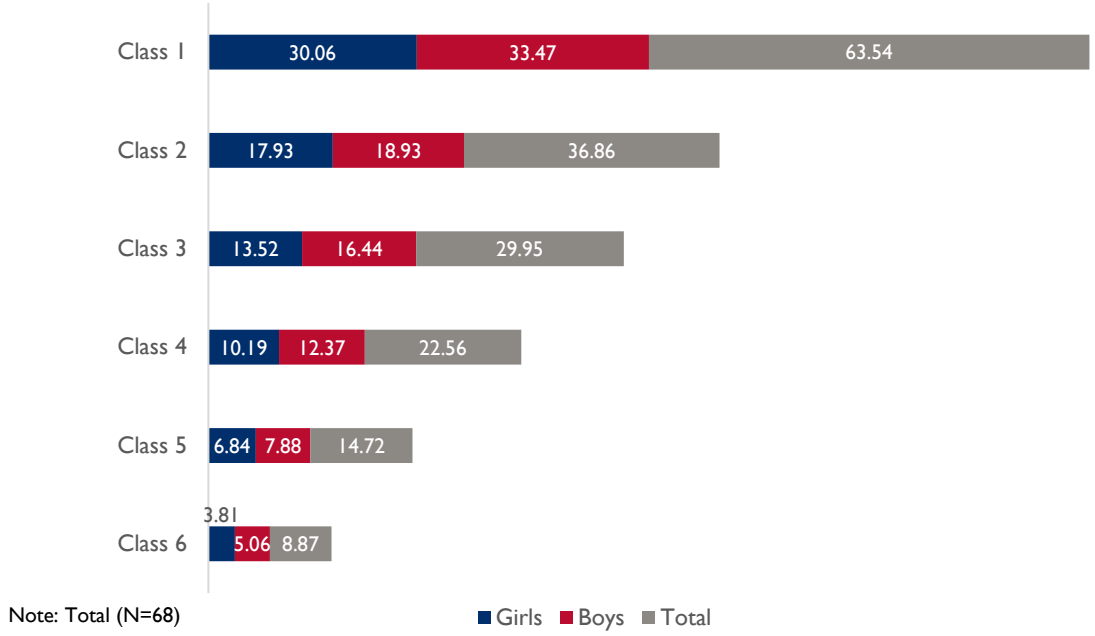
For the purposes of this baseline evaluation, *indicator 1.3.4.1—Number of students enrolled in schools receiving USDA assistance*—is calculated using the number of pupils formally enrolled in APFL IV schools. Across the 309 APFL IV intervention schools, the total enrollment at baseline is 44,511 pupils—23,356 boys and 21,155 girls—according to the CRS baseline monitoring data.

While the data above is representative of the overall monitoring data on attendance collected by CRS across all project schools, the study was able to collect more detailed information on the sampled schools. Analysis of the data from sampled schools only is included below.

For sampled schools only, enumerators asked head teachers of sample schools to provide the total number of enrolled pupils by class and sex. At the sample schools, the overall average enrollment per school (classes 1 through 6) was 176.51 pupils; the average school enrollment was 82.35 girls and 94.16 boys.

The average enrollment by class and sex is presented in Figure 14. The average total enrollment was highest for Class 1, with 63.54 pupils. Average enrollment decreased as the class level increased, with the smallest average class size in reported in class 6 (8.87 pupils). The average enrollment of girls was lower than boys within each class level.

Figure 14: Average Pupil Enrollment by Class and Sex

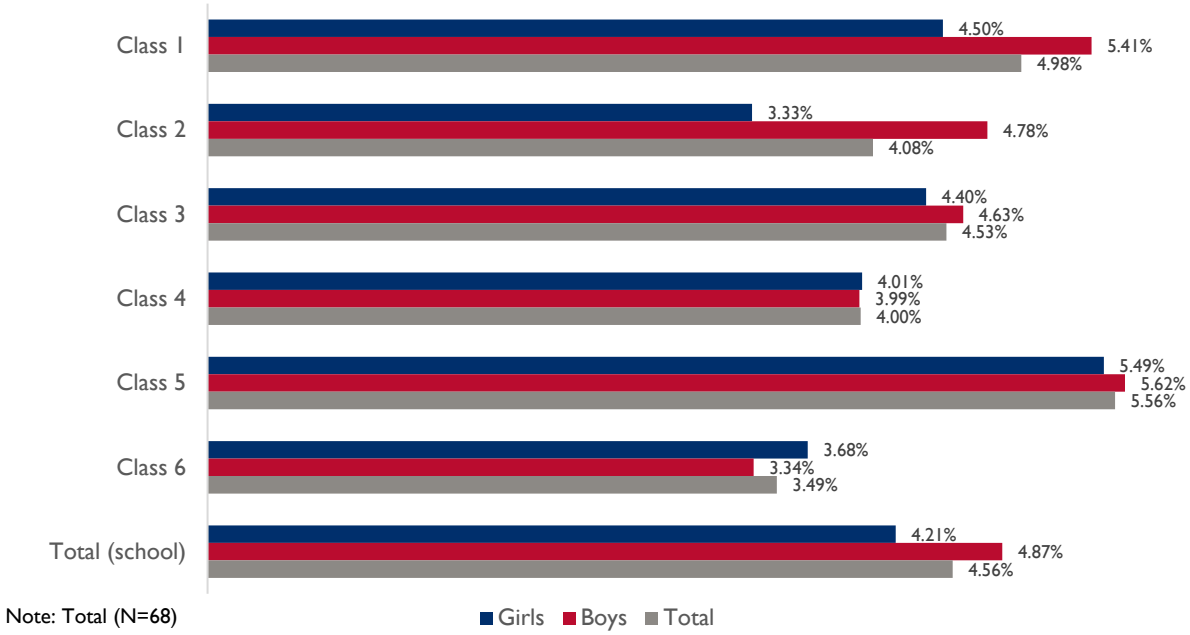


1.3.5 Increased Community Understanding of the Benefits of Education

Dropout rates by class and sex were calculated to respond to indicator *1.3.5.3*: *Percentage of students in classes 3 through 6 who dropped out of school at the end of the school year*. Head teachers provided the total number of enrolled pupils by class and sex and the total number of dropouts; the dropout rate is calculated as the total dropouts divided by the total enrollment.

Dropout rates by class and sex are presented in Figure 15. The average dropout rate across all classes and both sexes was 4.56 percent. Class 5 had the highest dropout rate—5.56 percent of pupils dropped out by the end of the school year. There was no observable trend in dropouts by sex and class, although the average dropout rate for boys across all classes was higher than that for girls—4.87 percent versus 4.21 percent, respectively.

Figure 15: Dropout Rates by Class and Sex



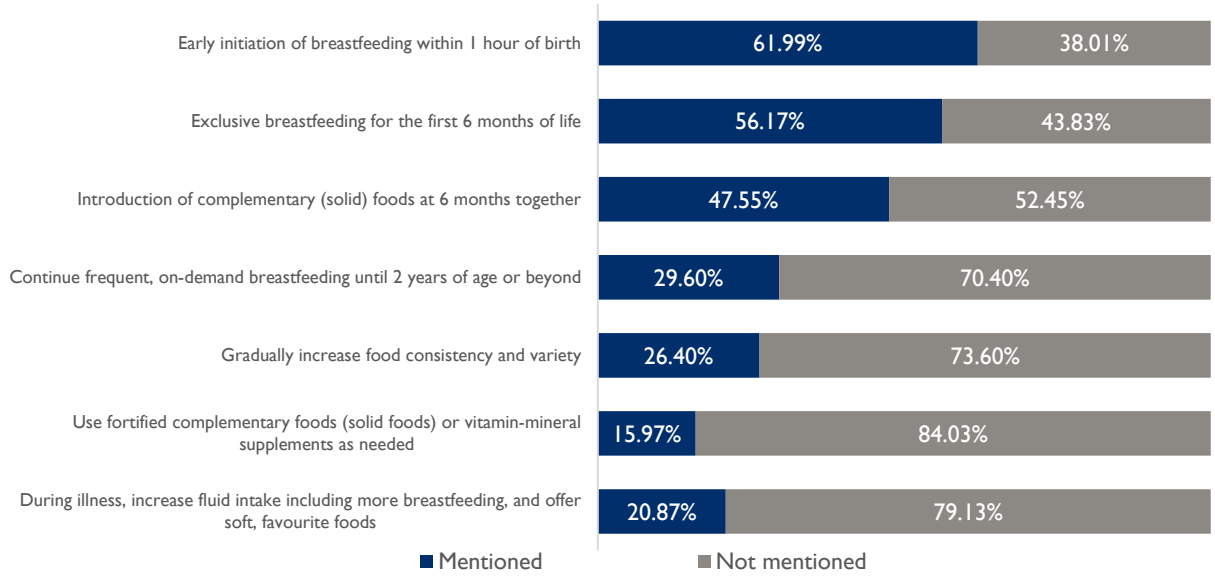
Note: Total (N=68)

SO2 INCREASED USE OF GOOD HEALTH AND DIETARY PRACTICES

The second SO of the APFL IV project is the increased use of good health and dietary practices. Results for indicator *2.0.0.3 Percentage of participants of community-level nutrition interventions who practice promoted infant and young child feeding behaviors* were calculated by asking the heads of MSGs about their knowledge of infant and young child feeding (IYCF) behaviors. Enumerators asked respondents to name things that a mother can do to support good IYCF practices; they marked the practices that were mentioned.[17] Findings are presented in Figure 16. Out of the 59 MSG members responding to this item, 98.27 percent were able to name at least one IYCF behavior. Over half of respondents named early initiation of breastfeeding within one hour of birth (61.99 percent) and exclusive breastfeeding for the first six months of life (56.17 percent). Only 15.97 percent of respondents named the use of fortified complementary foods or vitamin-mineral supplements; 1.73 percent of respondents were unable to mention any behaviors.

[17] A total of 66 MSG heads were interviewed.

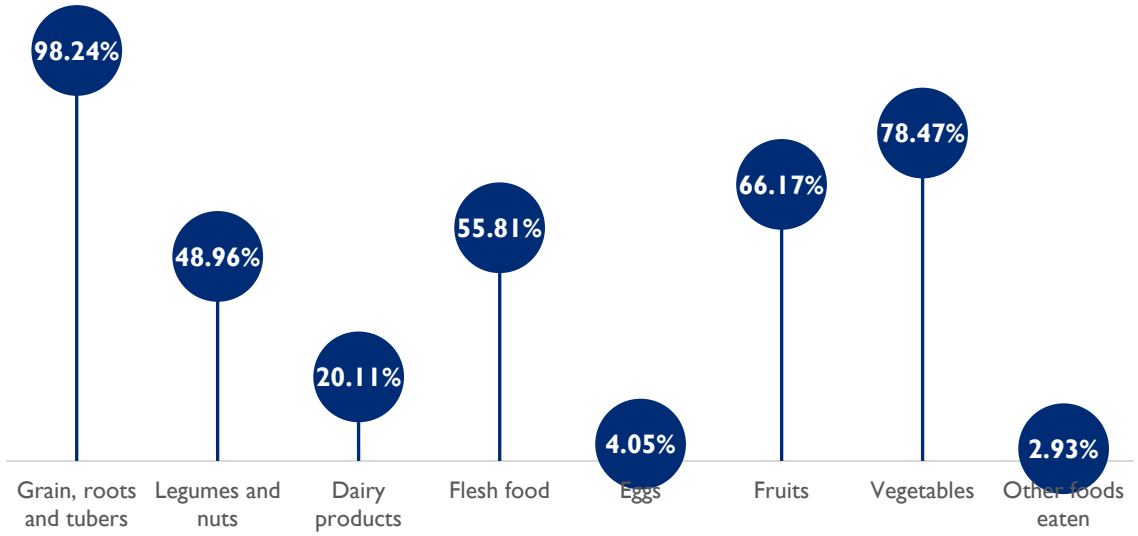
Figure 16: Knowledge of Infant and Young Child Feeding Behaviors



Note: Total (N=59)

At baseline, pupils were asked about the types of foods that they ate the previous day; this was done to better understand their dietary intake and the types of foods consumed. Results are presented in Figure 17. Nearly all pupils (98.24 percent) reported having eaten grains, roots, and tubers in the previous day. About four in five pupils (78.47 percent) consumed vegetables, and just over half (55.81 percent) consumed flesh foods. Only 4.05 percent had consumed eggs the previous day.

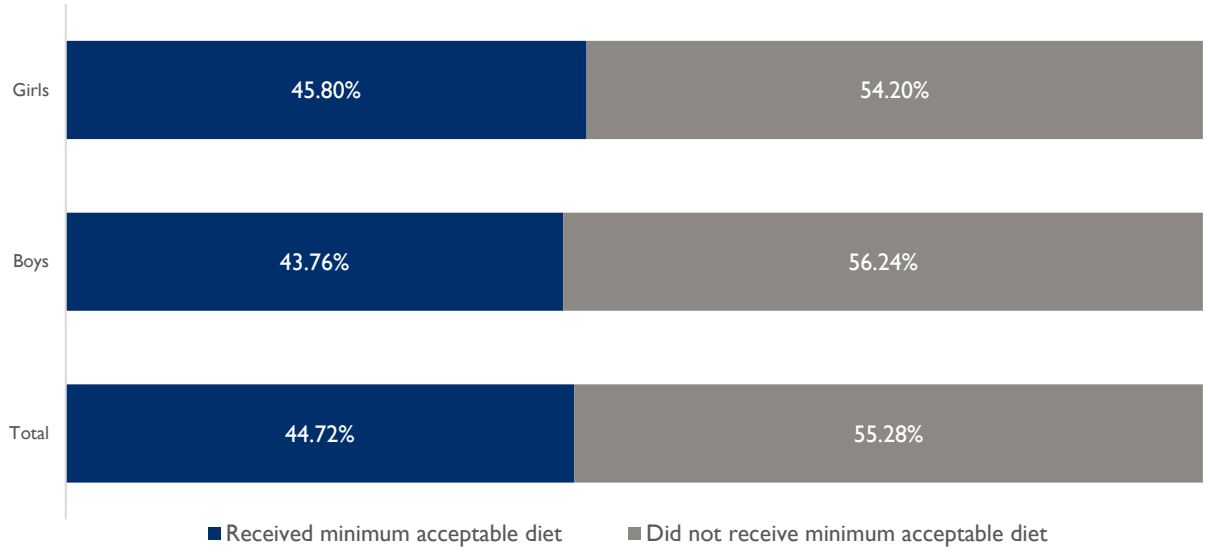
Figure 17: Percentage of Pupils Consuming Selected Food Groups



Note: Total (N=679)

Using these results, pupils were grouped into those receiving a minimum acceptable diet—defined as consuming four of the seven food groups in the previous day.[18,19] The percentage of pupils consuming a minimum acceptable diet is presented in Figure 18.[20] Out of 682 pupils surveyed, 44.72 percent consumed at least four of seven food groups in the previous day.

Figure 18: Percentage of Pupils Consuming a Minimum Acceptable Diet (Four of Seven Food Groups) by Sex



Note: Girls (n=334); Boys (n=348); Total (N=682)

IR2.1 Improved Knowledge of Health and Hygiene Practices

The first IR under SO2 is improved knowledge of health and hygiene practices. To respond to this IR at baseline, pupils were asked to name things they can do to have good health and hygiene; enumerators coded their responses based on a set of 12 possible good practices. Responses are presented in Figure 19. Pupils most frequently mentioned wearing clean clothes—three in four (75.34 percent) named this practice. About the same proportion of pupils mentioned eating good food and cutting and keeping nails clean—69.40 percent and 69.02 percent, respectively. The practices that the fewest pupils mentioned included brushing teeth twice a day (30.98 percent) and hair braiding (24.66 percent).

Using these results, results for indicator *2.1.1 Percentage of students in target schools who achieve a passing score on a test of good health and hygiene practices* was calculated. Assuming a passing score of 50 percent of practices named, 287 pupils (42.74 percent) achieved a passing score for good health and hygiene practices. The proportion of girls and boys achieving passing scores were 43.53 percent and 42.04 percent, respectively.

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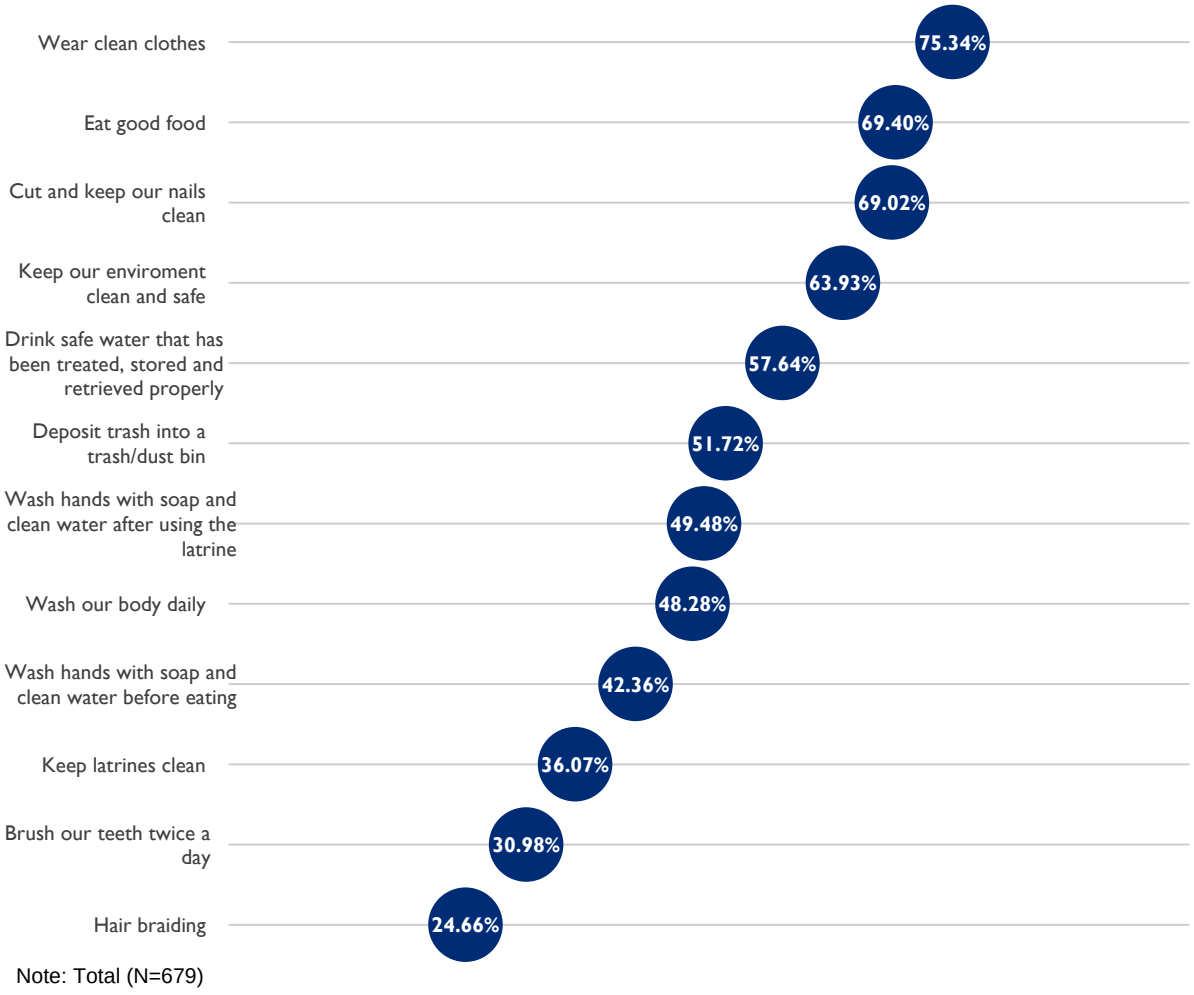
[18] CRS has based this definition on the World Health Organization's (WHO) guidelines for minimum dietary diversity for infants and young children. This definition was also used for the APFL Phase III endline evaluation.

[19] "Data Sources and Inclusion Criteria." World Health Organization. World Health Organization, December 23, 2013. https://www.who.int/nutrition/databases/infantfeeding/data_source_inclusion_criteria/en/.

[20] The seven food groups were grain, roots, and tubers; legumes and nuts; dairy products; flesh foods; eggs; fruits; and vegetables. The "other foods eaten" category was not considered in the indicator calculation.

Figure 19: Percentage of Pupils Naming Good Health and Hygiene Practices



Note: Total (N=679)

IR2.2 Increased Knowledge of Safe Food Preparation and Storage Practices

The second IR under SO2 is increased knowledge of safe food preparation and storage practices. To respond to this IR at baseline, enumerators interviewed food preparers to learn about their knowledge of safe food preparation and storage. Enumerators also observed kitchen and storage facilities at each school. Key findings are presented.

As previously reported in Table 18, only 51.09 percent of schools had a kitchen available for cooking food; characteristics of those school kitchens are presented in Table 19. A majority (59.34 percent) of school kitchens had roofs of corrugated metal sheets made of zinc, but just over half (52.16 percent) did not have any walls. Nearly three in four kitchens (74.13 percent) had earth floors, and one-third (30.15 percent) of school kitchens had spoon and plate shelves.

Table 19: Sample School Kitchen Characteristics

Characteristic	n	Percentage of total
Material of roof of kitchen		
Corrugated metal sheets (zinc)	21	59.34%
Asbestos	0	0.00%
Concrete	0	0.00%
Thatch	15	40.66%
Tarpaulin (plastic sheet)	0	0.00%
Material of wall of kitchen		
Concrete polished wall	4	10.97%
Mud polished	3	8.62%
Concrete unpolished wall	7	20.12%
Mud unpolished	1	2.87%
Metal sheets (pan body)	0	0.00
Thatch	2	5.26%
Tarpaulin (plastic sheet)	0	0.00
No wall	19	52.16%
Material of floor of kitchen		
Concrete floor	9	25.87%
Earth floor	27	74.13%
Wooden floor	0	0.00%
Has spoon and plate shelves	11	30.15%
Has rack/pallet for drying plates and spoons	19	52.65%

Note: Total (N=36)

As reported in Table 18, 62.81 percent of the schools observed had a storeroom or storage facility; the characteristics of those spaces are presented in Table 20.[21] All storerooms and storage facilities had a door with a lock, and all had ventilation blocks, either with mesh (70.84 percent) or without mesh (29.16 percent). Nearly all (97.42 percent) storerooms and storage facilities had roofs of corrugated metal sheets made of zinc and most (92.26 percent) had polished concrete walls.

[21] Although 45 schools had a storeroom or storage facility, the enumerators were not able to visit four of these spaces because of their distance from the school.

Table 20: Sample School Storeroom or Storage Facility Characteristics

Characteristic	n	% of Total
Has door with lock	41	100.00%
Has ventilation blocks		
Yes, with mesh	29	70.84%
Yes, without mesh	12	29.16%
No ventilation blocks at all	0	0.00%
Material of roof of storeroom/storage facility		
Corrugated metal sheets (zinc)	40	97.42%
Asbestos	0	0.00%
Concrete	1	2.58%
Thatch	0	0.00%
Tarpaulin (plastic sheet)	0	0.00%
Material of wall of storeroom/storage facility		
Concrete polished wall	38	92.26%
Mud polished	3	7.74%
Concrete unpolished wall	0	0.00%
Mud unpolished	0	0.00%
Metal sheets (pan body)	0	0.00%
Thatch	0	0.00%
Tarpaulin (plastic sheet)	0	0.00%
Material of floor of storeroom/storage facility		
Concrete floor	41	100.00%
Earth floor	0	0.00%
Wooden floor	0	0.00%
Food stacked on pallet	27	65.65%
Food store clean	38	92.26%
Food store has been fumigated in last 6 months	30	71.63%

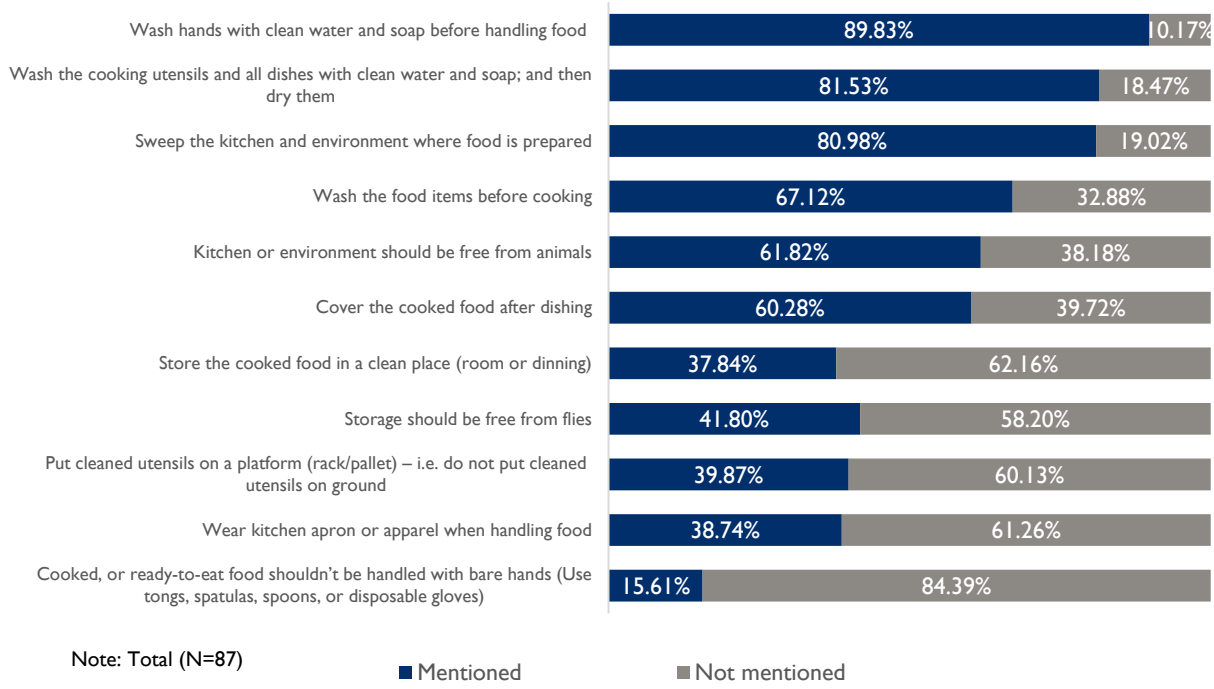
Note: Total for the first item (N=45); total for the remaining items (N=41)

To calculate results for *indicator 2.2.1 Percentage of food preparers at target schools who achieve a passing score on a test of safe food preparation and storage*—enumerators asked food preparers to name things they can do to prepare and store food safely. Assuming a passing score means the respondent named eight of the eleven monitored practices, 33 out of 87 food preparers (37.25 percent) achieved a passing score at baseline.[22]

[22] As per the APFL IV PMP, indicator 2.2.1 should be disaggregated by sex; however, at baseline, data on the food preparers' sex were not captured.

The specific practices named by the food preparers are detailed in Figure 20. Across schools, 89.83 percent of food prepares named washing hands with clean water and soap before handling food, and 81.53 percent named washing cooking utensils and all dishes with clean water and soap and drying.

Figure 20: Knowledge of Safe Food Preparation and Storage Practices



IR2.4 Increased Access to Clean Water and Sanitation Services

The fourth IR under SO2 is increased access to clean water and sanitation services. According to CRS's baseline monitoring data of all intervention schools, 161 of the 309 schools are using an improved water source.

For sampled schools only, enumerators observed the presence of water and sanitation services at each of the 68 sample schools. Findings on water source characteristics from the sample schools, which correspond to indicator *2.4.1 Number of schools using an improved water source*, are presented in Table 21. About two out of every five sample schools (39.98 percent) had a functional drinking water facility; of those, 66.95 percent were chlorinated. The most prevalent type of water facility was a hand pump well (68.08 percent), followed by a borehole with a pump (12.81 percent). For those schools without a functional water facility, 28.64 percent had a broken facility, 25.60 percent had no water, and 45.76 percent had facilities that were not functioning for other reasons.

Table 21: Sample School Water Facility Characteristics

Characteristic	n	Percentage of total
Functional drinking water facility at school	28	39.98%
Main water facility is chlorinated	19	66.95%
Type of water facility		
Tap/pipe borne water	1	3.67%
Hand pump well	19	68.08%
Borehole with pump	4	12.81%
Ordinary well (protected)	1	3.67%
Ordinary well (unprotected)	1	4.41%
Others	2	7.35%
Reason for water facility not functioning		
Broken down	12	28.64%
No water/dried	10	25.60%
Other	18	45.76%

Note: Total for the first item (N=68); total for second item (N=28); total for the third item (N=28); total for the fourth item (N=40)

For sanitation facilities, CRS's baseline monitoring data shows 228 of the 309 intervention schools have improved sanitation facilities. Findings on sanitation facilities at the 68 sample schools, which correspond to *indicator 2.4.2 Number of schools with improved sanitary facilities*, are presented in Table 22. Out of the 68 schools observed, 74.26 percent had a functioning toilet or latrine; of those, 86.94 percent were separated by sex. About three in every five schools (61.05 percent) had toilets or latrines with all rooms cleaned, and 57.10 percent of schools with toilets or latrines had a place for handwashing.

Table 22: Sample School Sanitation Facility Characteristics

Characteristic	n	Percentage of total
Functioning toilet/latrine in school	51	74.26%
Latrines/toilets separated by sex	45	86.94%
Pupils and teachers have separate toilets/latrines	37	72.07%
Cleanliness of toilets/latrines		
All rooms are clean	32	61.05%
Some rooms are clean	14	27.87%
No rooms are clean	5	11.08%
Place for hand washing	30	57.10%
Availability of water and soap at handwashing facility		
Water and soap available	10	33.5%
Water available only	20	66.5%
Soap available only	0	0.0%

Characteristic	n	Percentage of total
No water and soap available	0	0.0%

Note: Total for the first item (N=68); total for items 2–5 (N=51); total for the sixth item (N=30)

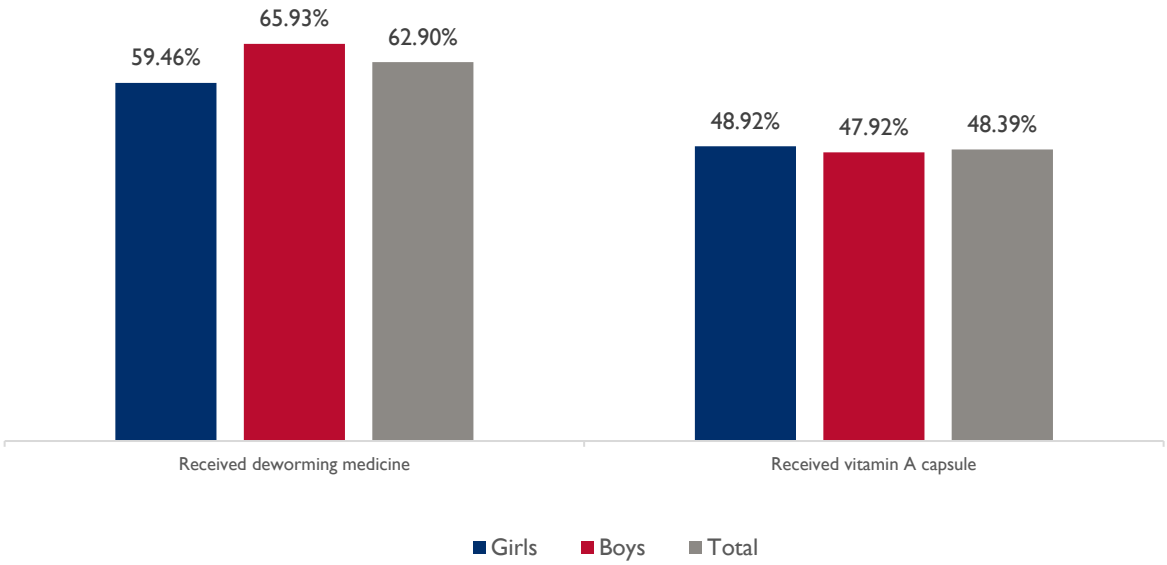
IR2.5 Increased Access to Preventative Health Services

The fifth IR under SO2 is increased access to preventative health services. To respond to this IR at baseline, pupils and head teachers were asked about their receipt of deworming and vitamin A capsules during the school year.

At baseline, enumerators asked pupils if they had received a dose of deworming medicine or a vitamin A capsule during the school year since September 2018. Results are presented in Figure 21. Out of a total of 680 pupils, 62.90 percent responded that they had received deworming medicine and 48.39 percent responded that they had received a vitamin A capsule during the school year.

To triangulate these findings, head teachers were also asked if pupils in the school had been given the same preventative health services during the school year and if yes, the frequency with which they were administered. Of the 68 head teachers interviewed, 69.86 percent reported that pupils had received deworming medicines during the year—an average of 1.36 times during the academic year. Just over half (54.47 percent) reported that pupils had received vitamin A capsules during the year—1.31 times, on average, during the academic year.

Figure 21: Percentage of Pupils Reporting Receiving Preventative Health Services by Sex



Note: Girls (n=332); Boys (n=348); Total (N=680). Remaining percentage includes pupils that responded "No" or "Don't know".

IR2.6. Increased Access to Requisite Food Preparation and Storage Tools and Equipment

The sixth IR under SO2 is increased access to requisite food preparation and storage tools and equipment. To respond to this IR at baseline, enumerators inventoried the food preparation and storage tools and equipment present at the school (see also Table 19 and Table 20). Results are presented in Table 23.

Table 23: Presence of Kitchen Equipment and Tools

Tool	Average	Minimum	Maximum
Big pots	1.82	1	3
Big bowls for cooked food	0.96	0	7
Big bowls for sauce	0.79	0	8
Wooden spoon	1.34	0	6
Scooping spoon	1.97	0	15
Serving plates	14.35	0	283
Spoons	14.28	0	283
Buckets	2.67	0	15
Towels	2.46	0	9
Cups	12.80	0	150
Knives	0.62	0	3
Mortar	0.39	0	2
Mortar pestle	0.48	0	3

Note: Total (N=68)

PROGRAM RELEVANCE

The findings from the FGDs and KIIs inform the qualitative research questions and are summarized in the following sections, as well as the Conclusions and Recommendations section. It is important to note that these findings should not be considered representative of the entire population, but rather the communities sampled.

To what extent does the program design respond to the needs identified by the baseline?

Qualitative data from the community FGDs and the stakeholder KIIs indicates that, overall, the holistic approach and design of the APFL IV project is responsive to the most prominent needs of pupils in their education:

- School feeding support,
- Improving teacher quality,
- WASH needs, including water wells and latrines, and
- Creating or improving school building infrastructure.

Of these needs, school feeding support was cited the most frequently in FGDs and was echoed prominently in stakeholder KIIs. Other, less cited barriers to pupils' education included sickness, lack of learning materials, lack of parental encouragement, negative peer influences, stigma and

bullying from peers, fear of corporal punishment from teachers, being required to do farm work, and lack of interest in education. In the stakeholder KIIs, the lack of government-approved or government-supported schools was also cited as a barrier, along with parents' low literacy rates. Differences between girls and boys' barriers are addressed more in the gender section of this report.

One area that emerged that is not currently supported through APFL IV is the issue of uniforms and clean clothes. Clothing was identified across multiple FGDs as a key barrier pupils face, as they may not go to school or they may be sent home from school without a uniform or clean clothes. Participants also saw it as a broader concern, citing stigmatization and bullying around clothing will lead pupils to skip school or drop out.

From the pupils' literacy assessment, the low performance of students in the listening comprehension subtask indicates there may be an unmet need to reinforce English literacy within the classrooms. Teachers may be uncomfortable or are not trained to teach English and may rely on mother tongue language instruction in the classrooms.

PROGRAM EFFECTIVENESS

Participants in both the community FGDs and the stakeholder KIIs provided their perceptions of the strengths, weaknesses, and value of the APFL IV project. Recommendations on how to improve the effectiveness of the project—including ways to enhance and leverage gender considerations, mitigate challenges and unintended consequences, and leverage existing resource—are discussed in the Recommendations section of this report.

How appropriate is the project design to the context?

The APFL IV design was viewed by parents and community member FGD participants and KII respondents as appropriate for the context, because it closely responds to the challenges, barriers, and needs of the communities. In communities where support is ongoing, parents expressed high appreciation and gratitude for the work that CRS has been doing and a desire for it to continue. Furthermore, in communities where work will be beginning under APFL IV, parents expressed a high level of interest and commitment to supporting the activities.

In addition, the design is seen as appropriate because it builds on and leverages existing channels and practices around parent and community support and engagement. For example, SILCs have already been established—sometimes independently and at other times with support from other NGOs—in some of the new APFL IV communities. Community group work has been leveraged in both old and new APFL communities to support the building of school infrastructure, cleaning up of school grounds, and other activities in a similar means that APFL IV employs.

What challenges can already be foreseen with the design of the project in achieving its objectives?

Both participants of the FGDs and the KIIs expressed concern around teachers. They felt that the quality of teaching may be impacted by a lack of trained teachers; teacher absenteeism due to inconsistent, late, or missing salaries; and an insufficient number of teachers at some

schools. Quantitative data from the school-based surveys supports these concerns. Less than half of teachers (46.15 percent) report having any type of teaching certificate. Furthermore, the self-reported knowledge of teaching techniques is very low with less than one-quarter of teachers reporting any level of knowledge and confidence across all techniques.

More specifically, within the KIIs there were concerns over the need for community members—parents and sometimes pupils—to support teachers through additional fees or assisting with farm work. These methods of teacher support were noted as potentially negatively impacting access to and quality of education. Concerns over indebtedness to teachers may reduce parents' engagement in supporting schools or even sending their children to school.

Another area of concern was with regards to the school feeding program. Participants felt that pupils' school attendance might be impacted if school feeding is inconsistent or not present due to pupils' "lack of interest" in school. Additionally, there was minor concern that poor monitoring or handling of the distribution of supplies may result in stealing or siphoning off of food, materials, or funds.

How could integration of the two strategic objectives and the foundational results be enhanced or further leveraged to deeper positive program impact?

No clear findings emerged from the analysis at the time of the baseline evaluation.

How could integration of the gender considerations be enhanced or further leveraged to deepen positive project impact?

Some of the gender-specific barriers to girls' education identified in FGDs and KIIs include pregnancy, early marriage, and household chore burden.

- **Pregnancy** was the most commonly cited barrier specific to girls in FGDs and KIIS, especially in relation to their dropping out of school when they become pregnant. Broader discussions of girls' engagement in sexual activity and in some cases, transactional sex, were noted in FGDs as having a negative impact on girls' education; this was at times accompanied by FGD participants' perceptions that girls are more interested or influenced by money than by their education. There was also an undercurrent within FGDs that educating a daughter was not done because she would just get pregnant anyway and education would be wasted. According to one female participant,

  > "[Men] said when you put the girls to school, they will end up getting pregnant, [men] also said no matter how you educate a girl child they will end up getting married. That is why they do not educate girls. They will leave everything in the hands of the mother, which is the reason we go the extra mile in other to support our girl child."

- Similar to pregnancy, **early marriage** was noted across several KIIs as a barrier for girls. Respondents shared that, while overall rates of early marriage are declining, there remain people who believe the purpose of a girl is to marry and that school is a waste of time.

- It was also noted several times in FGDs and KIIs that girls have a higher **household chore burden**. For example, a girl may be held back from school so she can cook for the family while her mother works at the farm.

However, in some FGDs—particularly within the all-male groups—respondents expressed that they see no difference in the barriers for boys and girls and that the challenges are the same. This may be supported by the similar drop-out rates recorded within sampled schools—4.87 percent for boys and 4.21 percent for girls. However, it does not explain the differences in pupils' performance on the literacy assessment wherein boys outperformed girls in most subtasks.

When examining how APFL IV programming can be enhanced, it is important to look at the differences in gender roles for the parents as well as the pupils. In some all-female FGDs, women expressed their perceptions that the burden and responsibility to support their daughters' education—and boys to some extent as well—falls solely on the mothers. Mothers buy school materials, send their children to school, and support their education. According to one mother,

> "I have given birth to my child, and I said she has to go to school, and her father said 'I will not be responsible for her school charges. You will be the one paying the school charges if you want her to go to school.' That is a clear indicator that a girl child should not be educated, but if you still persist in sending her to school you will be responsible for her. The mother is the only one buying all the school materials for her daughter. If you don't have the money to do all that, your daughter will not go to school. The men are not supporting their girl child. If you don't believe, ask any of these girls standing there and they will tell you, 'my mother is the one gives me everything.' These are the reasons why the girls end up being a drop out, because they have left all the responsibility of the girl child in the hands of their mothers. The men said they will not educate a girl child; a mother will not be able to educate her girl child."

Similar sentiments that children's education is considered the responsibility of women and mothers were expressed in KIIs as well. In one KII, the respondent noted that the burden falls disproportionately on women. Moreover, CRS's approach towards engaging parents often mirrors traditional gender roles and expectations. MSGs, SILCs, food preparers training, and other activities are perceived to involve women and mothers as caregivers and, therefore, the main person responsible for children's education; fathers and men are typically engaged to support with physical or manual labor. From the view of one of the KII respondents, this approach to engaging parental involvement may even reinforce traditional stereotypes about women's and men's roles and responsibilities within society and put an undue burden of volunteering and support on mothers and female community as well. According to one KII respondent:

> "In order to address gender issues, I think that the mothers should be properly remunerated. We need to properly pay them rather than just give them dry rations—[CRS] give them family rations to take home—because if these moms are being taken away from supporting their husbands and the farm, supporting them with the household

chores and they are volunteering and cooking meals at the school, it needs to be remunerated properly... rather than just giving them dry rations. I know they give them five portions of dry rations equivalent to a meal for a single-family unit, but then there are responsibilities that are not just limited to food. They need to be remunerated so they can partake in things like looking after themselves, providing… having an income that would address other issues that they need."

This concern was not consistent across all FGDs, however, as some men and fathers highlighted the various ways they support their children's education—including that of their girls. Given the variations, another interpretation may be that a degree of variation in the level of support and engagement for daughters' education exists between mothers and fathers—and is likely to vary both within and across communities.

To what extent will the project respond to the needs of stakeholders and facilitate their participation?

In communities where APFL has already been intervening, the qualitative data indicates that the project is highly responsive to the needs of parents and community members and that it has engaged their participation in numerous ways. However, several barriers to parent and community member engagement and support of the APFL project have been identified:

- **Hardships related to poverty**. In areas where parents help support community teachers by paying school fees, poverty can make this financial arrangement unsustainable. In turn, children may be turned away from school, not sent to attend, or feel shame related to indebtedness to the teacher. In addition, when parents are not able to contribute financially or provide relevant learning materials, uniforms, or clean clothes, they may feel ashamed, withdraw their child from school, or not participate in school activities or meetings for fear of being asked to provide financial support.
- **Farm work**. Parents often need to focus on their farms as their first priority.
- **Lack of value placed on education by parents**. While all participants in the FGDs displayed a strong level of interest and commitment to their children's education, they noted that this sentiment and belief is not necessarily universal. They felt that there are parents who do not value education for their children and parents who may place a higher value on children supporting farm work than attending school.
- **Lack of knowledge of project activities.** Parents and community members noted a lack of knowledge about the program as a potential barrier to participation.

Other less frequently cited barriers include concern over bullying, lack of accountability for non-contributors to group work within the community, lack of monitoring of materials or funds contributing to stealing, parents' low literacy levels, lack of incentives for parental engagement, and a sense of pride wherein wealthier parents may prefer to send money than contribute physically.

Which interventions are likely to be the most critical and effective in achieving the project's intermediate results and objectives?

Parents and community members discussed all aspects of the project's intervention based on the outlined activities provided by CRS. In this discussion, parents and community members—

as well as KII respondents—most frequently cited school feeding as the project's most critical intervention. School feeding was perceived as increasing pupils' attendance and enabling them to be able to focus and pay attention in the classroom and, therefore, supporting their learning.

Another intervention that was frequently cited across FGDs and KIIs as critical was teacher training, coaching and mentoring of teachers, and distance learning. Parents noted that if a teacher is trained properly, they will be able to teach the children better. WASH-related interventions were also mentioned across multiple FGDS and several KIIs as critical. Specifically, these interventions included the construction of latrines, water wells, and pumps as need is high for improving these hygiene practices.

Other interventions that were noted less frequently included supporting of SILCs due to prevalence of poverty, training on food storage and handling to ensure hygienic practice as well as reduce waste and contamination, school gardens to support and supplement the school feeding, provision of learning materials to help children learn, and the construction of school building infrastructure given high level of need.

In almost half of the FGDs, participants mentioned that all the activities were needed or critical.

Are there any foreseeable negative impacts or unintended consequences of the project that need to be addressed or mitigated against since the beginning?

When asked about potential negative impacts or unintended consequence, parents and community members identified several potential issues and concerns:

- Stealing of food or other supplies by food preparers, teachers, and others;
- Poor food preparation leading to sickness;
- Pupils skipping afternoon lessons after receiving their meal;
- Pupils eating too much and being sleepy and unable to pay attention to the lessons in the afternoon;
- Children from nearby communities are abandoning their schools in favor of enrolling in APFL-supported schools, which could also contribute to potential safety issues for children on the way to and from the schools due to the distance; and
- Donor dependency or fatigue especially when considering the sustainability of the schools after the APFL program ends.

SUSTAINABILITY AND IMPACT

Much of the discussion around sustainability came from discussions with stakeholders participating in the KIIs. The findings from these discussions are summarized here. More detailed recommendations around sustainability are presented in the Recommendations section, which also answers to the following evaluation questions:

- How can an exit strategy be better integrated from project startup?
- How can CRS effectively improve the design and implementation to achieve a more sustainable impact?

What are the key considerations to ensure sustainability and impact?

The evaluation identified the following areas of focus for sustainability of the APFL IV project:

- Coordination across partners was noted as critical to sustainability in multiple KIIs. At the national level, it was noted that given the holistic nature of the program, it is essential that the project coordinates with key partners and that parents are involved in and attend important meetings. When asked which key partners must be included, one respondent indicated partners in education, health, social welfare, agriculture and community structures, and counsels.
- Respondents indicated that strengthening and building the capacity of the MBSSE and other relevant government partners to prepare them for transitioning into the implementing role for the school feeding program at CRS-supported schools would be important.
- Placing a greater emphasis on school gardens and farms—as well as a reduced emphasis on food imports—was also seen as important. One respondent highlighted that by buying local food from the community rather than importing food, the program would create employment and support local farmers by creating a demand for their products. While this may not be possible due to programmatic limitations, such a barrier could indicate that more stakeholder education is needed regarding the structure and scope of the project.
- Respondents also named continuing to leverage and strengthen existing structures to take on increasing responsibility for program activities. At the community level, this would include MSGs, SILCs, SMCs, and community workgroups.

What could be barriers to achieving sustainability and impact?

The transition of CRS's school feeding support to the GoSL may be challenging due to overall implementation costs, limited experience and capacity, and the complicated logistics of getting food to schools due to the poor road conditions and limited accessibility.

Poverty levels will likely limit parents' and community members' ability to meet any financial demands associated with supporting or supplementing teachers not on MBSSE's payroll as well as the other hidden costs of education beyond school fees, such as learning materials, uniforms, opportunity costs related to household chores or farm work, and others.

If teachers are not on the government payroll or receiving payment in a timely fashion, this may contribute to teacher absenteeism. It may also limit teachers' commitment and engagement in their teaching roles, which would have potentially negative implications on the quality of teaching and pupils' learning gains.

If community schools are not approved to become a part of the MBSSE system, this may impact their ability to get the necessary support from the government. The lack of government support would increase the burden placed on the community. This is especially an area of concern when CRS is no longer available to supplement finances and advocate for governmental support.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Overall, the findings from the baseline evaluation for the APFL IV project show that the design of the project is relevant and properly addresses the needs of the communities CRS serves. The findings provide both a challenge and encouragement for CRS. Communities are very supportive of the APFL programming and want it to continue. The NSFS, as an entity, is ready to learn and prepare itself to take on the school feeding activities.

However, with such a large expansion of the APFL project in Phase IV, the project's needs are great. Based on the baseline literacy assessment, APFL IV pupils' literacy outcomes are low—only 5.58 percent of class 2 pupils achieved the reading comprehension benchmark. Pupils performed best on the alphabet naming subtask, but more than half of all pupils struggled with the other subtasks. In general, boys outperformed girls across the subtasks, which indicates a gender-based performance gap. Importantly, low performance on the listening comprehension sub-task indicates that students cannot comprehend a story told to them at a level that was deemed appropriate which would indicate very low English abilities that are foundational for reading acquisition.

Teachers will likely play a critical role in the project's success. While teacher attendance is relatively high, there is a clear need for rigorous training and coaching. When asked about effective teaching techniques, less than one-quarter of teachers felt any confidence in their ability to use the techniques in their own classrooms. Fewer than half of teachers are certified, so CRS's teacher training and certification efforts will help fill this gap in the teaching workforce in Koinadugu and Falaba districts. One encouraging finding concerning teacher coaching was that nearly all teachers (94.85 percent) had been observed by their head teacher in the academic year; 87.15 percent had been observed more than twice in the year. With one of the top three reported motivation factors for teachers being their relationship with the head teacher, supporting positive relationships between teachers and their head teachers can be an impactful activity for CRS.

Supporting the feeding program will be critical for the APFL IV project. Only 6.12 percent of head teachers reported being able to provide a school meal on the day of the baseline data collection visit. This indicates that without CRS support, provision of meals at schools will be limited. Additionally, with less than half of pupils reporting that they are reaching the minimum acceptable diet, keeping the school feeding programs well stocked will be essential for pupils' nutrition.

From the community FGDs and stakeholder KIIs, there is clear support for the APFL IV project and a desire to see it succeed. Participants shared potential challenges and unintended

consequences of the project, as well as recommendations on how to further strengthen the design and implementation of the project. Many of these recommendations are outlined here.

RECOMMENDATIONS

Program Relevance

TAILOR APFL IV INTERVENTIONS TO SPECIFIC COMMUNITY AND SCHOOL NEEDS.

Based on slight variations in specific needs within different communities, it will be appropriate for the project to include minor adaptions to its approach to different communities based on their previous level of support from APFL as well as their current needs and priorities. More targeted interventions would likely see the greater impact and encourage stronger community buy-in and ownership, thus ensuring greater sustainability.

There may also be unique needs in specific communities that warrant additional, specific attention—such as one community wherein both the male and female FGDs cited the destructive impact of cattle as a major issue in their area. Proposed engagement to support fencing around the school could be an appropriate deviation from project activities.

Additionally, in communities with other organizations are already in place, it may make sense to not focus on certain activities—such as SILCs—to prevent duplication. For example, according to the qualitative data, SILC-like activities are being supported by Oxfam in Fudu Kalia and Medicoast in Wara Wara Bafodia in Koinadugu. CRS should create and leverage partnerships within these communities to ensure their education work is not duplicative. This could also be the case with the distribution of Vitamin A supplementation, which was reported to be taking place in some intervention schools. Additionally, as CRS launches more SILC groups, they may need to be sensitive to community perceptions that poverty is a barrier to the development of SILCs.

EXAMINE EXISTING STUDENT AND TEACHER ENGLISH LANGUAGE ABILITIES.

Student performance on the listening comprehension sub-task may indicate that students have a limited ability to understand spoken English. The project may want to consider undertaking more targeted research into the reasons for this gap in comprehension. Specifically, this may mean a deeper investment in coaching for basic skills for literacy instruction for early grade teachers, who's English language proficiency was not addressed in this baseline data collection. Improving the English abilities of teachers may be a necessary step to ensuring they can confidently teach students to read in English.

Program Effectiveness

CLOSELY MONITOR PROJECT IMPLEMENTATION.

At every stage of the APFL IV project, it will be important to monitor the implementation of activities in order to ensure fidelity to the project design. This would include documenting any differences in implementation across communities and schools, as CRS strives to meet the specific needs of each school. This may help alleviate concerns shared in the FGDs and KIIs

around the mismanagement of supplies, and it will allow CRS to more nimbly respond to challenges that arise, such as the insufficient food supplies. Close monitoring of the fidelity of implementation will also allow the project to link specific interventions with outcomes during the midline and endline evaluations of the APFL IV project.

ADDRESS GENDER CONSIDERATIONS WITHIN THE PROGRAMMING.

Several recommendations around gender considerations came out of the FGD and KII discussions:

- Informing their daughters about family planning practices to help prevent unwanted pregnancies;
- Leveraging life skills activities to link pupils to youth-friendly, sexual and reproductive health services for girls and boys;
- Community-wide sensitization on the importance of education, especially for girls, including promoting a sharing chore burden across siblings regardless of gender
- Engaging fathers and men more broadly in pupils' education, possibly in nontraditional roles; and
- Examining potential alternatives and expansion of remuneration practices for food prepares to ensure that the work is not exploitative nor taking advantage of women's volunteer role.

CRS may consider completing a more thorough gender and social inclusion analysis to ensure that the project design, planning, implementation, monitoring, and evaluation consider existing gender disparities and that the implementations designed to remove or reduce them are the right ones for the project context. For example, a gender analysis could further examine challenges and solutions related to:

- Girls' extra household chore burden;
- Girls who continue not to enroll, have high levels of absenteeism, or drop-out despite the school feeding and other interventions;
- Lack of female teachers or role models within the school;
- Teenage pregnancy and early marriage in primary education drop-out; and
- Transactional sex in relation to education.

Sustainability and Impact

BUILD THE CAPACITY OF THE NATIONAL SCHOOL FEEDING SECRETARIAT.

Considering the APFL IV goal of transitioning the school feeding program to the GoSL, it was proposed within the KIIs that CRS could play a role in building the capacity of the nascent NSFS.

Recommendations for capacity building activities include:

- Increased collaboration with NSFS to prepare them to take over through CRS-led trainings and frequent communication;

- Supporting study visits to other countries in West Africa to observe and learn from the challenges and success of other government-run school feeding programs;
- Building the capacity of the monitoring-and-evaluation teams to provide oversight to school feeding implementation, as well as building capacity related to the administrative and logistical wings on the actual implementation of school feeding programs;
- Identifying any potential role for CRS to play in support NSFS, while recognizing that there may be a perception within the Secretariat that CRS is less engaged in the GoSL's preferred homegrown school feeding programs; and
- Building NSFS fundraising capacity in order to provide access to supplemental funding opportunities and support, including developing an understanding of the donor landscape and the networking within that space.

INTEGRATE TRANSITION STRATEGY FROM START-UP FOR SUSTAINABLE IMPACT.

Clear communication and expectation setting around the transition strategy must be central to APFL IV's early discussions with communities, partners, and the GoSL. The transition strategy should be developed in partnership with relevant stakeholders. Such a strategy should clearly articulate transitions and phase-out approaches for each activity, identify responsible parties to continue implementation after APFL IV ends, delineate direct and indirect costs, establish monitoring and oversight guidelines, and set clear timelines. A successful strategy should also outline contingency plans, as needed.

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ANNEXES

ANNEX A. SAMPLING APPROACH

For the baseline evaluation, a *two-stage cluster* sampling approach was used to select pupils, teachers, and food preparers. First, schools were randomly selected as clusters; then pupils, cooks, and teachers within schools were selected at the second stage. The sample size for the sampling units was computed using the indicator "Percentage of pupils who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of the grade-level text." The outcome is binary—taking the value 1 if a pupil can read grade-level text and 0 otherwise. The pupil's sex was further used as a covariate to gain additional explanatory power.

The evaluation used the equation in McConnell and Vera-Hernandez[23] to calculate sample sizes for a binary outcome with a binary covariate.

$$Sample\ size = 2m * k = (\boldsymbol{g}\boldsymbol{M}^{-1}\boldsymbol{g}')\frac{(z_\beta + z_{\alpha/2})^2}{(p_1 - p_0)^2}(1 + (m-1)\rho_x)$$

where m = 10, the number of pupils sampled per school; k = the number of schools sampled; **g** and **M** are defined in equation of McConnell and Vera-Hernandez.[24] Based on APFL Phase III endline results and assumptions about baseline values for the new schools entering in APFL IV, analysts assume a pass rate for boys at baseline of 39.4 percent and 41.5 percent for girls, with 53 percent of the sample being boys. The project targeted an endline pass rate of 58 percent for both boys and girls.

z_β = One-tailed value of the normal distribution at (1–0.80), which is the sample's power. Analysts have a 20.00 percent probability of not finding an effect from intervention, despite there being a genuine effect—Type II error. z_α= Two-tailed value of the normal distribution at 0.05, which is our significance level. Analysts have a 5.00 percent chance of rejecting the null hypothesis when it should not—Type I error. In this case, the null hypothesis is there is no difference between reading scores from baseline to endline. $\rho_x = 0.52$, or the conditional intracluster correlation (ICC) from the APFL Phase III endline.[25]

[23] McConnell, Brendon, and Marcos Vera-Hernandez. "Going beyond Simple Sample Size Calculations: a Practitioner's Guide." IFS. Institute for Fiscal Studies, September 28, 2015. https://www.ifs.org.uk/publications/7844.

[24] McConnell, Brendon, and Marcos Vera-Hernandez. "Going beyond Simple Sample Size Calculations: a Practitioner's Guide." IFS. Institute for Fiscal Studies, September 28, 2015. https://www.ifs.org.uk/publications/7844.

[25] An ICC value of 1.00 would mean that all the variation in the data could be explained by differences between the schools, thus we would need to visit many schools, but only one pupil per school. An ICC of 0.00 would mean that all the data variation could be explained by differences between the pupils, thus researchers could visit fewer schools, but more pupils in each. See McConnell and Vera-Hernandez on calculating the ICC and conditional ICC.

ANNEX B. SUPPLEMENTARY FINDINGS

Table B.1: Literacy Assessment Mean Scores for Pupils at New or Continuing APFL Schools

Subtask	Total Possible Items Correct	Continuing Schools		New Schools	
		n	Mean	n	Mean
Letter Name	51	458	36.80	224	33.98
Phonemic Awareness**	10	458	1.40	224	0.70
Familiar Word	40	458	11.56	224	10.77
Invented Word**	25	458	18.05	224	18.77
Reading Passage**	41	458	8.69	224	4.75
Reading Comprehension**	5	458	0.74	224	0.30
Listening Comprehension	4	458	1.09	224	1.04

Note: Two asterisks (**) denotes that the scores of pupils at continuing schools are statistically significantly higher than those at new schools at the p<0.01 level.

Table B.2: Distribution of Reading Comprehension Scores for Pupils at New or Continuing APFL Schools

	Zero Correct		One Correct		Two Correct		Three Correct		Four Correct		Five Correct		Total Meeting Benchmark of 4+ Correct	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Pupils from new APFL IV schools	222	83.91%	10	3.68%	13	5.08%	11	4.00%	6	2.30%	3	1.02%	264	3.32%
Pupils from continuing APFL schools	311	74.53%	20	4.84%	21	4.95%	36	8.66%	13	3.12%	16	3.90%	418	7.02%
Total Pupils	533	78.17%	30	4.39%	34	5.00%	47	6.85%	19	2.80%	19	2.78%	682	5.58%

Table B.3: Head Teacher Supplementary Findings

Item	Yes		No	
	n	%	n	%
Does the school have a time book for recording daily teacher attendance?	62	92.06%	5	7.94%
Is there a logbook (visitor book) in the head teacher's office?	48	72.03%	19	27.97%
Is there a teaching master-timetable displayed in the head teacher's office?	35	51.67%	32	48.33%
Is there a teacher duty roster clearly displayed in the head teacher's office?	34	50.43%	33	49.57%
Are there visual teaching and learning materials displayed in the head teacher's office?	40	60.21%	27	39.79%
Are inventory book or other school records properly organized and updated in the head teacher's office?	42	63.15%	25	36.85%
Has the head teacher benefited from training in diagnostic teaching methods?	37	55.39%	30	44.61%

Table B.4: Teacher and Classroom Observation Supplementary Findings

Item	Response Options	n	%
Class level observed	Class 2	50	34.32%
	Class 3	46	32.05%
	Class 4	49	33.63%
Do you have a lesson plan or note for the class you just conducted?	Yes	110	75.97%
	No	35	24.03%
Do you have access to a teacher's guide?	Yes, in head teacher's office	94	65.26%
	Yes, in classroom	30	19.75%
	No	21	14.99%
Pupils follow instructions	Little evidence	44	24.62%
	Moderate evidence	78	43.57%
	Extensive evidence	57	31.81%

Table B.5: Pupil Attention Supplementary Findings

Item	n	Mean
Number of boys in class	179	13.13
Number of girls in class	179	11.64

Item	n	Mean
Number of boys attentive to instructions	179	8.26
Number of girls attentive to instructions	179	7.47

Table B.6: Head Teacher School Feeding Response Supplementary Findings

Item	Response Option	n	%
Have or will pupils in this school receive/be served meal/food provided by CRS today?	Yes	5	6.12%
	No	47	67.08%
	Do not know/Not applicable	16	26.79%
When was meal/food served to pupils today?	Morning (before 11:30 am)	5	100.00%
	At lunch time (exactly at 11:30–12:30 pm)	1	20.00%
	Afternoon (after 12:30 pm)	0	0.00%
Why have pupils in this school not been served meal/food today?	No feeding program yet established at school	21	36.43%
	Food supplies run out	40	60.46%
	No condiments for cooking	3	4.77%
	No fuel (firewood) to cook food	0	0.00%
	No food preparer available	1	1.89%
	No cooking utensils (pot)	0	0.00%
	No access to store	0	0.00%
	Other	3	4.68%
Are the community people supporting this school with stipulated level of food contribution for cooking materials (such as condiments, firewood, vegetables, etc.) to the school feeding program?	Yes	46	64.36%
	No	6	8.85%
	Do not know/Not applicable	16	26.79%
Are teachers of this school currently receiving meals (school feeding program)?	Yes	23	32.18%
	No	29	41.03%
	Do not know/Not applicable	16	26.79%

Table B.7: School Observation Enrollment, Attendance, and Dropouts

Item	N	Girls (sum)	Boys (sum)	Total (sum)
Class 1 enrolled	68	2044	2276	4321
Class 1 attending	68	1316	1481	2797
Class 1 attendance rate (%)	68	64.37%	65.07%	64.74%
Class 1 dropouts	68	92	123	215
Class 2 enrolled	68	1219	1287	2507
Class 2 attending	68	801	873	1674
Class 2 attendance rate (%)	68	65.66%	67.85%	66.79%
Class 2 dropouts	68	41	61	102
Class 3 enrolled	68	919	1118	2037
Class 3 attending	68	612	780	1391
Class 3 attendance rate (%)	68	66.52%	69.76%	68.30%
Class 3 dropouts	68	40	52	92
Class 4 enrolled	68	693	841	1534
Class 4 attending	68	505	606	1112
Class 4 attendance rate (%)	68	72.95%	72.03%	72.45%
Class 4 dropouts	68	28	34	61
Class 5 enrolled	68	465	536	1001
Class 5 attending	68	324	393	717
Class 5 attendance rate (%)	68	69.78%	73.32%	71.67%
Class 5 dropouts	68	26	30	56
Class 6 enrolled	68	259	344	603
Class 6 attending	68	161	256	418
Class 6 attendance rate (%)	68	62.25%	74.49%	69.23%
Class 6 dropouts	68	10	12	21
Total enrolled	68	5600	6403	12003
Total attending	68	3719	4390	8109
Total attendance rate (%)	68	66.42%	68.56%	67.56%
Total dropouts	68	236	312	548

Table B.8: Classroom Observation Headcounts

Item	N	Girls (sum)	Boys (sum)	Total (sum)
Class 2 attending	50	857	964	1821
Class 3 attending	46	638	819	1457
Class 4 attending	49	585	565	1150

Table B.9: School Garden Findings

Item	Response Options	n	%
Does the school have a school garden?	Yes	22	30.64%
	No	46	69.36%
What types of vegetables are grown?	Green beans	5	24.25%
	Potatoes	12	51.94%
	Peppers	10	45.76%
	Tomatoes	4	17.68%
	Cassava leaves	16	72.07%
	Pumpkin	1	5.75%
	Lettuce	2	7.95%
	Spinach	0	0.00%
	Other	4	19.17%

Table B.10: Head Teacher Preventative Health Services Supplementary Findings

Item	Response Options	n	%
Have pupils in this school received de-worming medicine/worm medicine during this school year (since September 2018)?	Yes	48	69.86%
	No	20	30.14%
	Number of times (average)	68	11.36
Have pupils in this school received vitamin A supplementation during this school year (since September 2018)?	Yes	38	54.47%
	No	30	45.53%
	Number of times (average)	68	22.34

ANNEX C. UPDATED INDICATOR PERFORMANCE TRACKING TABLE (IPTT)

Table C.1: Updated Indicator Performance Tracking Table

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Outcomes (Data available only for Baseline, Midterm, and Final Evaluation years)			
Percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text	MGD # 1	25%	5.58%
Percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text (Male)	MGD # 1	27%	7.77%
Percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text (Female)	MGD # 1	22%	3.11%
Percent of participants of community-level nutrition interventions who practice promoted infant and young child feeding behaviors	MGD # 21	TBD	98.27%
Outcomes (Data available only at baseline and annually)			
Average student attendance rate in USDA supported classrooms/schools	MGD # 2	89%	61.8%
Average student attendance rate in USDA supported classrooms/schools (Male)	MGD # 2	90%	70.9%
Average student attendance rate in USDA supported classrooms/schools (Female)	MGD # 2	89%	52.7%
Number of teachers/educators/teaching assistants in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance	MGD # 4	0	
Number of teachers/educators/teaching assistants in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance (Male)	MGD # 4	0	
Number of teachers/educators/teaching assistants in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance (Female)	MGD # 4	0	
Number of school administrators and officials in target schools who demonstrate use of new techniques or tools as a result of USDA assistance	MGD # 6	0	
Number of school administrators and officials in target schools who demonstrate use of new techniques or tools as a result of USDA assistance (Male)	MGD # 6	0	

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Number of school administrators and officials in target schools who demonstrate use of new techniques or tools as a result of USDA assistance (Female)	MGD # 6	0	
Number of students enrolled in schools receiving USDA assistance (Primary School)	MGD # 9	31,546	44,511
Number of students enrolled in schools receiving USDA assistance (Male)	MGD # 9	16,266	23,356
Number of students enrolled in schools receiving USDA assistance (Female)	MGD # 9	15,281	21,155
Number of individuals who demonstrate use of new child health and nutrition practices as a result of USDA assistance	MGD # 19	0	
Number of individuals who demonstrate use of new child health and nutrition practices as a result of USDA assistance (Male)	MGD # 19	0	
Number of individuals who demonstrate use of new child health and nutrition practices as a result of USDA assistance (Female)	MGD # 19	0	
Number of Individuals who demonstrate use of new safe food preparation and storage practices as a result of USDA assistance	MGD # 20	0	
Number of Individuals who demonstrate use of new safe food preparation and storage practices as a result of USDA assistance (Male)	MGD # 20	0	
Number of Individuals who demonstrate use of new safe food preparation and storage practices as a result of USDA assistance (Female)	MGD # 20	0	
Percent of participants of community-level nutrition interventions who practice promoted infant and young child feeding behaviors	MGD # 21	TBD	
Output (Data available only at Baseline and Annually)			
Number of policies, regulations, or administrative procedures in each of the following stages of development as a result of USDA assistance	MGD # 10	0	
Number of policies, regulations, or administrative procedures in each of the following stages of development as a result of USDA assistance **Education**	MGD # 10	0	

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Number of policies, regulations, or administrative procedures in each of the following stages of development as a result of USDA assistance **Child Health and Nutrition**	MGD # 10	0	
Value of new USG commitments, and new public and private sector investments leveraged by USDA to support food security and nutrition	MGD # 11	0	
Value of new USG commitments, and new public and private sector investments leveraged by USDA to support food security and nutrition (Host Government amount)	MGD # 11	0	
Value of new USG commitments, and new public and private sector investments leveraged by USDA to support food security and nutrition (Other Public amount)	MGD # 11	0	
Value of new USG commitments, and new public and private sector investments leveraged by USDA to support food security and nutrition (Private amount)	MGD # 11	0	
Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance	MGD # 18	0	
Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (Male)	MGD # 18	0	
Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (Female)	MGD # 18	0	
Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (New)	MGD # 18	0	
Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance (Continuing)	MGD # 18	0	
Number of children under five (0-59 months) reached with nutrition-specific interventions through USG-supported programs	MGD # 24	0	
Number of children under five (0-59 months) reached with nutrition-specific interventions through USG-supported programs (Male)	MGD # 24	0	
Number of children under five (0-59 months) reached with nutrition-specific interventions through USG-supported programs (Female)	MGD # 24	0	

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Number of children under two (0-23 months) reached with community-level nutrition interventions through USG-supported programs	MGD # 25	0	
Number of children under two (0-23 months) reached with community-level nutrition interventions through USG-supported programs (Male)	MGD # 25	0	
Number of children under two (0-23 months) reached with community-level nutrition interventions through USG-supported programs (Female)	MGD # 25	0	
Number of pregnant women reached with nutrition-specific interventions through USG-supported programs.	MGD # 26	0	
Number of pregnant women reached with nutrition-specific interventions through USG-supported programs. (<19 years of age)	MGD # 26	0	
Number of pregnant women reached with nutrition-specific interventions through USG-supported programs. (≥19 years of age)	MGD # 26	0	
Number of individuals participating in USDA food security programs	MGD # 30	0	
Number of individuals participating in USDA food security programs (Male)	MGD # 30	0	
Number of individuals participating in USDA food security programs (Female)	MGD # 30	0	
Number of individuals benefiting indirectly from USDA-funded interventions	MGD # 31	0	
Output (Data available only at baseline and Biannually)			
Number of teaching and learning materials provided as a result of USDA assistance	MGD # 3	0	
Number of teachers/educators/teaching assistants trained or certified as a result of USDA assistance	MGD # 5	0	
Number of teachers/educators/teaching assistants trained or certified as a result of USDA assistance (Male)	MGD # 5	0	
Number of teachers/educators/teaching assistants trained or certified as a result of USDA assistance (Female)	MGD # 5	0	
Number of school administrators and officials trained or certified as a result of USDA assistance	MGD # 7	0	

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Number of school administrators and officials trained or certified as a result of USDA assistance (Male)	MGD # 7	0	
Number of school administrators and officials trained or certified as a result of USDA assistance (Female)	MGD # 7	0	
Number of educational facilities (i.e. school buildings, classrooms, improved water sources and latrines) rehabilitated/constructed as a result of USDA assistance	MGD # 8	0	
Number of educational facilities (classrooms) rehabilitated/constructed as a result of USDA assistance	MGD # 8	0	
Number of educational facilities (improved water sources) rehabilitated/constructed as a result of USDA assistance	MGD # 8	0	
Number of educational facilities (latrines) rehabilitated/constructed as a result of USDA assistance	MGD # 8	0	
Number of educational facilities (Kitchens, cook areas) rehabilitated/constructed as a result of USDA assistance	MGD # 8	0	
Number of educational facilities (Other school grounds or building (storerooms) rehabilitated/constructed as a result of USDA assistance	MGD # 8	0	
Number of public-private partnerships formed as a result of USDA assistance	MGD # 12	0	
Number of public-private partnerships formed as a result of USDA assistance (Education)	MGD # 12	0	
Number of public-private partnerships formed as a result of USDA assistance (Health)	MGD # 12	0	
Number of public-private partnerships formed as a result of USDA assistance (Nutrition)	MGD # 12	0	
Number of public-private partnerships formed as a result of USDA assistance (Multi Focus)	MGD # 12	0	
Number of Parent-Teacher Associations (PTAs) or similar "school" governance structures supported as a result of USDA assistance	MGD # 13	0	
Quantity of take home rations provided (in metric tons) as a result of USDA assistance	MGD # 14	0	

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Quantity of take home rations provided (in metric tons) as a result of USDA assistance (Rice)	MGD # 14	0	
Quantity of take home rations provided (in metric tons) as a result of USDA assistance (Vegetable Cooking Oil)	MGD # 14	0	
Quantity of take home rations provided (in metric tons) as a result of USDA assistance (Lentils)	MGD # 14	0	
Number of individuals receiving take-home rations as a result of USDA assistance	MGD # 15	0	
Number of individuals receiving take-home rations as a result of USDA assistance (New)	MGD # 15	0	
Number of individuals receiving take-home rations as a result of USDA assistance (Continuing)	MGD # 15	0	
Number of individuals receiving take-home rations as a result of USDA assistance (Male students)	MGD # 15	0	
Number of individuals receiving take-home rations as a result of USDA assistance (Female students)	MGD # 15	0	
Number of individuals receiving take-home rations as a result of USDA assistance (Pregnant and Lactating Women)	MGD # 15	0	
Number of individuals receiving take-home rations as a result of USDA assistance (Others)	MGD # 15	0	
Number of daily school meals (breakfast, snack, lunch) provided to school-age children as a result of USDA assistance	MGD # 16	0	
Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance	MGD # 17	0	
Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (Male)	MGD # 17	0	

Performance Indicator	Standard MGD Indicator Number	Baseline Target	Baseline Actual
Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (Female)	MGD # 17	0	
Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (New)	MGD # 17	0	
Number of school-aged children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance (Continuing)	MGD # 17	0	
Number of individuals trained in safe food preparation and storage as a result of USDA assistance	MGD # 22	0	
Number of individuals trained in safe food preparation and storage as a result of USDA assistance (Male)	MGD # 22	0	
Number of individuals trained in safe food preparation and storage as a result of USDA assistance (Female)	MGD # 22	0	
Number of individuals trained in child health and nutrition as a result of USDA assistance	MGD # 23	0	
Number of individuals trained in child health and nutrition as a result of USDA assistance (Male)	MGD # 23	0	
Number of individuals trained in child health and nutrition as a result of USDA assistance (Female)	MGD # 23	0	
Number of schools using an improved water source	MGD # 27	46	161
Number of schools with improved sanitation facilities	MGD # 28	169	228
Number of students receiving deworming medication(s)	MGD # 29	0	
Number of schools reached as a result of USDA assistance	MGD # 32	0	

The following annexes are included in a separate document.

ANNEX E. PUPIL LITERACY ASSESSMENT

ANNEX F. PUPIL SURVEY

ANNEX G. TEACHER SURVEY AND CLASSROOM OBSERVATION TOOL

ANNEX H. SCHOOL-BASED SURVEYS

ANNEX I. SCHOOL OBSERVATION TOOL

ANNEX J. FOCUS GROUP DISCUSSION GUIDE