



Foreign Agricultural Service – Food Assistance Division

**McGovern-Dole Food for Education
and Child Nutrition Program
USDA FFE-631-2015/001-00**



**Advancing Literacy through Good Nutrition (ALIGN) FY 15
Project - Cameroon
Implemented by Nascent Solutions, Inc.**



**Baseline Survey Report
Submitted January 15, 2016**

DISCLAIMER: This publication was produced at the request of the United States Department of Agriculture. It was prepared by an independent third-party evaluation firm. The author's views expressed in this publication do not necessarily reflect the views of the United States Department of Agriculture or the United States Government.

Accessibility Note: An accessible version of this document can be made available by contacting fas.monitoring.evaluation@usda.gov

Table of Contents

List of Abbreviations and Acronyms.....	3
Executive Summary	4
Introduction.....	5
Baseline Survey Purpose and Key Questions.....	7
Methodology	7
Results and Discussion.....	23
Appendices	

Figures

Figure 1. Performance distribution on all timed subtasks (Project schools only)	23
Figure 2. Distribution of Project Pupils by EGRA Performance Level	23
Figure 3. Percentage of Pupils Scoring Zero by Subtest and School Type	24
Figure 4. Mean scores on EGRA	25
Figure 5. Mean Scores by Subtest and Gender	27
Figure 6. Mean Score by Subtest and Geographic Location	27
Figure 7. Relationship between oral reading fluency and CWPM and non-word CWPM	28
Figure 8. Time Devoted to Teaching Activity by School Type	30
Figure 9. Observed Teaching Activity Categories Compared to U.S. Benchmarks	31
Figure 10. Time Devoted to Active Teaching by Activity	31
Figure 11. Time Devoted to Classroom Management by Activity	32
Figure 12. Time Devoted to Teacher Off-task by Activity	32
Figure 13. Distribution of Materials Used During Instructional Activities	33
Figure 14. Pupil Off-Task by Activity	34
Figure 15. Predictors of Pupil Off-task Behavior	34
Figure 16. Proportion of Pupils consuming a Minimum Acceptable Diet	36
Figure 17. Mean food groups and consumption occurrences	37
Figure 18. Food group consumption	37
Figure 19. Consumption frequency with standard	38
Figure 20. Consumption frequency among the three fruit and vegetable categories	38
Figure 21. Agricultural calendar for Northwest Region	39
Figure 22. Pupils with at least 80 percent attendance	41
Figure 23. Pupil Enrollment by Gender	41

List of Abbreviations and Acronyms

ALIGN	Advancing Literacy through Good Nutrition
CE	Common Entrance exam
CI	Confidence Interval
DDS	Dietary Diversity Score
EGRA	Early Grade Reading Assessment
FSLE	First School Leaving Exam
M&E	Monitoring and Evaluation
MGD	McGovern-Dole Food for Education and Child Nutrition Program
PTA	Parent-Teacher Association
SO	Strategic Objective
STH	Soil-transmitted Helminthes
UNFAO	United Nations Food and Agriculture Organization
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

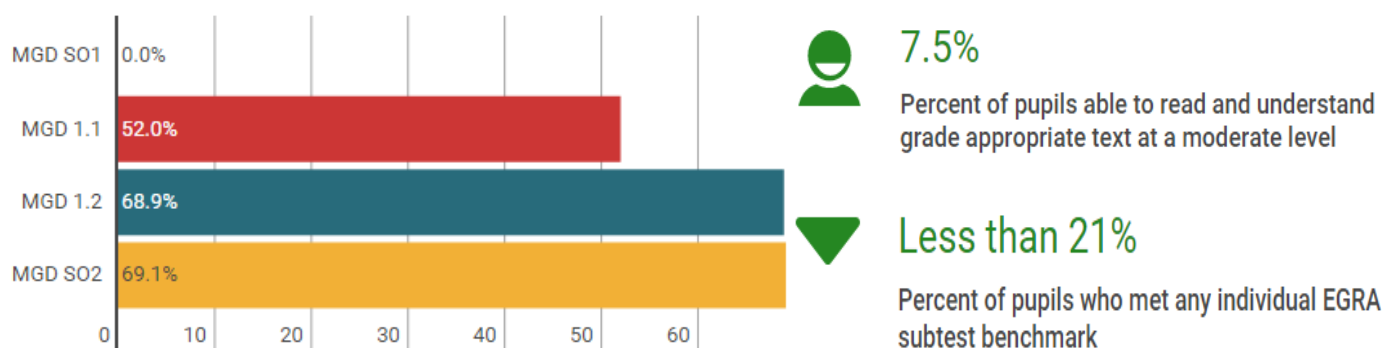
Executive Summary

Nascent Solutions is implementing the USDA-funded FY2015 McGovern-Dole (MGD) Food for Education and Child Nutrition project in Bui division, Cameroon. Known as Advancing Literacy through Good Nutrition (ALIGN), the \$12M project will run from July 2015 to June 2018. Its primary goal is to improve literacy of school-age children at 92 primary schools through improved literacy instruction, student attentiveness, and student attendance. Secondly, the project intends to increase the use of positive health and dietary practices.

In late 2015, ALIGN conducted a survey to establish baseline figures on key project outcomes among project schools and a comparison group.

A two-stage cluster sampling design designated schools as the primary sampling unit, with pupils or teachers as the secondary unit. Eighty schools were sampled, distributed evenly between project and comparison groups. Within those schools, a total of 1,514 class three pupils, 415 teachers, and 1,598 class one through six pupils were sampled, distributed evenly between project and comparison groups.

Data collectors administered three internationally valid and reliable tools to gather information: the Early Grade Reading Assessment (EGRA), the Stallings classroom observation system (Stallings), and a dietary diversity recall survey (DDS) using a 24-hour recall. Data collectors received four days of classroom-based training on the tools, followed by two testing sessions at primary schools. Four weeks of data collection yielded these results:



These figures suggest a strong need for ALIGN's interventions designed to improve the quality of literacy instruction and student attentiveness. Baseline results suggest that pupils consume relatively diverse diets in line with nutrient intake needed for their growth. However, more research is needed, as data was collected during November, a post- and ongoing harvest period.

An independent final evaluation in May 2018 will largely repeat this survey, seeking to understand the impact attributable to ALIGN's interventions.

Key Questions:



MGD SO1

What is the percentage 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 1.1

What is the percentage of teachers engaged in "active instruction" for 50%+ of literacy instruction time?



MGD 1.2

What is the percentage of classroom time in which all but ≤5 students are "on-task"?



MGD SO2

What is the percentage of school-age children receiving a minimum acceptable diet?

Introduction

This document presents the baseline survey report for USDA's FY2015 McGovern-Dole (MGD) Food for Education and Child Nutrition program in Cameroon, USDA Cooperative Agreement USDA FFE-631-2015/001-00, executed July 15, 2015. This project, known as Advancing Literacy through Good Nutrition (ALIGN) is implemented by Nascent Solutions Inc. (Nascent).

The Project

ALIGN is a 3-year, \$12M project designed to improve the literacy of school-age children through improved literacy instruction, student attentiveness, and student attendance. Secondly, the project intends to increase the use of positive health and dietary practices. The project will run from July 2015 to June 2018.

While the primary goal is improving literacy, the staple activity is the provision of a daily lunch using food commodities provided by USDA. Concurrently, ALIGN will seek to improve:

- Quality of literacy instruction, through more consistent teacher attendance, better materials, and training of teachers and administrators;
- Student attentiveness, through the daily lunch program and extracurricular activities;
- Student attendance, through school infrastructure improvements, enrollment outreaches, an increased community understanding of education benefits, and reducing health related absences;
- Use of positive health and dietary practices, through increased knowledge of hygiene, safe food preparation, and nutrition, as well as increased access to clean water and sanitation, preventative health interventions, and provision of safe food preparation and storage items.
- Education systems, through enhancing the capacity of local government and civil society, as well as local education- and nutrition-related policies.

The project will benefit 157,000 students and their families, teachers, administrators, civil servants, parent-teacher association members, and others associated with 92 primary schools in Bui division, North West region, Cameroon. All 92 schools will receive the full menu of interventions, with the exception of pilot projects involving e-readers and after-school tutoring.

The targeted schools include government-run public schools, and private schools including those affiliated with the Catholic, Baptist, Presbyterian, and Islamic faiths. The 92 schools have 16,300 enrolled students across grade levels one to six and 529 teachers. All 92 schools were part of the 2008-12 MGD project led by Counterpart International with Nascent as award sub-recipient. They were selected in collaboration with local stakeholders based on the following criteria:

- Lack of access to water and sanitation services
- Inadequate school infrastructure
- Lack of access to supplies and literacy materials
- Lack of trained teachers

- Low enrollment figures, especially for girls, particularly in the Mbororo/Fulani communities
- Willingness of the school community to contribute materials, unskilled labor, and land for the school garden.
- Probability of sustaining activities beyond June 2018, when USDA support ends.

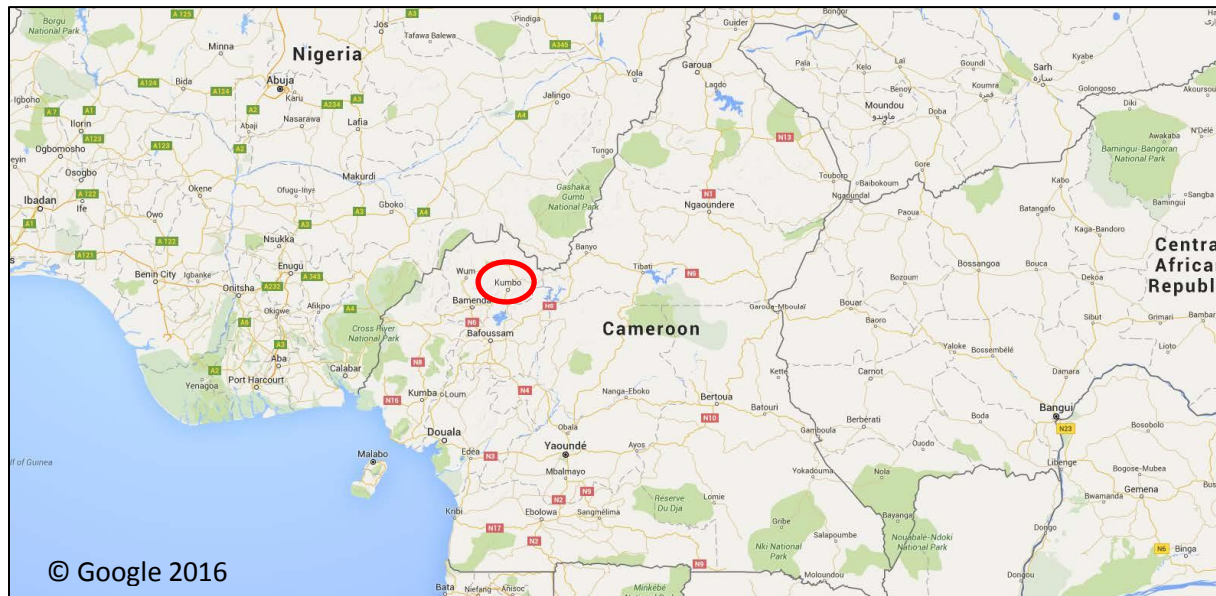
Partners include local authorities from the Ministries of Education, Public Health, Agriculture, and Water and Energy, and Caritas Kumbo. International partners include Books for Africa and WorldReader.

ALIGN will operate three project offices: one in Kumbo, the headquarters of Bui division; one in Bamenda, the capital of North West region; and one in Yaoundé, the capital of Cameroon.

The Context

Bui division has a population of over 550,000 people spread across 2,300 sq. km. It is predominantly agrarian, with rich soils that produce an abundance of maize - the staple food - and other crops. Yet it experiences annual food shortages, largely because of the use of poor agricultural practices based on hand tools on small plots, which produce food for immediate consumption with little or no mechanism for storage or processing.

Location of Bui Division, Cameroon



Social services in Bui are weak or nonexistent, including those related to education and health. The educational system suffers from poorly trained teachers and administrators, underfunded schools, dilapidated infrastructure, a lack of school feeding programs, insufficient teaching materials, teacher absenteeism, and a policy environment resistant to change.

Meanwhile, the health system struggles to support the nutritional and preventive medicine needs of children. It is hindered by poor water, sanitation, and hygiene facilities, poor access to preventive

medical interventions, and a lack of community knowledge surrounding hygiene and nutritionally optimal and safe food preparation.

Baseline Survey Purpose and Key Questions

The baseline survey has multiple purposes:

- Establish baseline figures at project schools to assist in setting project targets;
- Establish baseline figures at comparison schools to allow for assessment of impact attributable to ALIGN at the final evaluation; and
- Strengthen the culture of evaluation and performance measurement within ALIGN and Nascent.

Key Questions

ALIGN was primarily interested in establishing baseline figures for the project's strategic objectives and key intermediate outcomes:

Number	Outcome	Key Question
MGD SO1	Improved Literacy of School-Age Children	What is the percentage 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 1.1	Improved Quality of Literacy Instruction	What is the percentage of teachers engaged in "active instruction" for 50%+ of literacy instruction time?
MGD 1.2	Improved Student Attentiveness	What is the percentage of classroom time in which all but ≤ 5 students are "on-task"?
MGD SO2	Increased Use of Health and Dietary Practices	What is the percentage of school-age children receiving a minimum acceptable diet?

The need to focus on MGD SO1 and SO2 is self-apparent – they are the sole strategic objectives of the project. Focus on MGD 1.1 and 1.2 is justified as the Bui division context and a literature review suggest that the key bottlenecks to improving primary school literacy are the low quality of literacy instruction and inconsistent student attentiveness.

Methodology

This section first discusses the overarching study design, sampling choices and techniques, data entry, cleaning, and analysis, and the logistical highlights of data collection. It then discusses in depth the methodology for the four Key Questions outlined above.

Note that "students" and "pupils" are used interchangeably throughout this report. While USDA indicator definitions refer to "students" based on American English usage of the term, the education system in Cameroon refers to primary school attendees as "pupils", while "student" is reserved for higher levels of education. Similarly, "grade" and "class" are used interchangeably when they refer to the student's cohort in school.

With this baseline survey, ALIGN endeavored to setup a prospective quasi-experimental¹ study on the Key Questions to be concluded by the final evaluation in 2018. This was the most rigorous study design available. Conducting a more rigorous randomized controlled trial was not possible, as beneficiary schools had already been selected.

By attempting to construct a baseline comparison group of equal size and similar characteristics to the project group, ALIGN may allow independent final evaluators to conduct propensity score matching when assessing some outcomes.² The table below indicates how project and comparison groups performed on Key Question outcomes:

	Project Group		Comparison Group		p-value assessing difference
	Measure	95% CI	Measure	95% CI	
MGD SO1: What is the percentage 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?	0.0%	(0.0, 0.0)	0.0%	(0.0, 0.0)	N/A
Meets Letter Names benchmark	0.5%	(0.0, 1.0)	2.1%	(0.3, 3.9)	0.0141
Meets Letter Sounds benchmark	6.9%	(4.2, 9.6)	9.3%	(5.8, 12.8)	0.1810
Meets Nonword Fluency benchmark	4.4%	(2.7, 6.1)	7.2%	(4.1, 10.4)	0.0582
Meets Reading Fluency benchmark	0.1%	(0.0, 0.2)	0.5%	(0.0, 1.1)	0.0524
Meets Reading Comprehension benchmark	41.0%	(33.0, 49.0)	43.3%	(33.6, 52.9)	0.5805
Meets Listening Comprehension benchmark	20.4%	(15.3, 25.5)	24.9%	(18.2, 31.6)	0.1874
MGD 1.1: What is the percentage of teachers engaged in “active instruction” for 50%+ of literacy instruction time?	52.0%	(44.3, 50.5)	37.3%	(30.7, 43.8)	0.0001
MGD 1.2: What is the percentage of classroom time in which all but ≤5 students are “on-task”?	68.9%	(65.0, 72.8)	70.2%	(65.6, 74.8)	0.6110
MGD SO2: What is the percentage of school-age children receiving a minimum acceptable diet?	69.1%	(65.4, 72.8)	69.3%	(65.7, 73.0)	0.9180

Furthermore, ALIGN sought to allow final evaluators to utilize the difference-in-differences analysis method³ by demonstrating similar pre-intervention trends in pupil achievement between project and comparison schools. Neither Cameroon as a whole nor Bui division specifically administer standardized testing at the class two level, so determining pre-intervention trends in a measure equivalent to ALIGN’s

¹ “Quasi-experimental” means that the schools receiving interventions are not randomized. As such, this study is not a fully experimental randomized controlled trial and will have less rigor.

² “Propensity score matching” is a quasi-experimental method for constructing comparison groups. By matching project subjects with comparison subjects, it ensures that the average characteristics of the treatment and comparison groups are similar. This allow for an unbiased impact estimate attributable to the intervention.

³ The “Difference-in-differences” analysis method studies intervention and comparison groups that have similar outcome trends before intervention and measures their differences after intervention to attribute impact to the intervention. It is best used in combination with propensity score matching, but can be used alone if pre-intervention trends are deemed to be similar. See page 11 of UNICEF Quasi-Experimental Design and Methods (http://devinfo.inec.org/impact_evaluation/ie/img/downloads/Quasi-Experimental_Design_and_Methods_ENG.pdf).

outcome of interest – improving literacy as measured through class two pupils – was difficult. A suitable proxy exists in two national, standardized exams given to class six pupils as they are finishing primary school: the First School Leaving exam (FSLE), and the Common Entrance exam (CE). ALIGN assumes the class six performance on these exams serves as a proxy for school performance as a whole.

The proportion of class six pupils earning passing marks on each exam for the previous three years is below:

	2012		2013		2014	
	FSLE	CE	FSLE	CE	FSLE	CE
Project	93.6	88.1	94.1	82.4	90.9	84.7
Comparison	93.5	91.7	97.8	86.8	93.1	91.4

Due to a short timeline and difficult travel on rural roads, ALIGN elected to use a two-stage cluster sampling method. ALIGN chose to target 40 primary clusters (schools), exceeding the 30-cluster rule of thumb. To calculate sample sizes for the Key Questions, ALIGN did not possess data on estimated proportions, standard errors, or design effects. As such, it made conservative estimates to ensure sufficiently large sample sizes. Sample sizes were calculated with the following assumptions:

Target Population Size	Estimated Outcome	Confidence Interval Width	Confidence Level	Power	Design Effect	Contingency for non-response
What is the percentage 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?						
2,652 Class 3 students	50%	±5%	95%	80%	2.8	2%
What is the percentage of teachers engaged in “active instruction” for 50%+ of literacy instruction time?						
529 Class 1-6 teachers	50%	±9%	95%	80%	2.0	2%
What is the percentage of classroom time in which all but ≤5 students are “on-task”?						
529 Class 1-6 classrooms	50%	±9%	95%	80%	2.0	2%
What is the percentage of school-age children receiving a minimum acceptable diet?						
16,300 Class 1-6 students	50%	±5%	95%	80%	2.5	2%

In lieu of comparable data from Cameroon, outcome proportions and design effects were conservatively estimated. This served to increase sample sizes. Confidence interval width, confidence level, and power were all set within standard ranges used in studies of this type. Non-response rate was assumed to be low, as ALIGN had already laid a foundation to encourage participation within schools. The parameters above led to calculated sample sizes below:

Total clusters (schools)	Total sample size	Project group schools - pupils/teachers	Pupils/teachers per project group school	Comparison group schools - pupils/teachers	Pupils/teachers per comparison group school
What is the percentage 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?					
80	1,520	40 - 760	19	40 - 760	19
What is the percentage of teachers engaged in "active instruction" for 50%+ of literacy instruction time?					
80	400	40 - 200	5	40 - 200	5
What is the percentage of classroom time in which all but ≤5 students are "on-task"?					
80	400	40 - 200	5	40 - 200	5
What is the percentage of school-age children receiving a minimum acceptable diet?					
80	1,600	40 - 800	20	40 - 800	20

Sampling frames for both project and comparison schools were obtained from Education Inspectors at the sub-divisional (local government) level and confirmed at the divisional level. No schools were removed from the sampling frame due to inaccessibility concerns. However, following the advice of statisticians, ALIGN sought to sample an equal number of students/teachers at the second stage for each Key Question. This necessitated the removal of schools that did not have the required minimum number of class three pupils and teachers. Figures regarding removal are below:

	Project group	Comparison group
Schools in original sampling frame	92	297
Schools removed because <19 Class 3 pupils	20	141
Schools removed because <5 Class 1-6 teachers	7	32
Schools remaining in sampling frame	65	124
Schools sampled	40	40 (44 for MGD 1.1 and 1.2)

Interviews with key informants and stakeholders did not raise any concerns about an achievement gap between schools that did and did not meet the minimums. ALIGN was unable to empirically confirm this assertion as it did not collect data from those schools which did not meet the minimums.

In separate lists, project and comparison schools were assigned numerical codes and randomly sampled without replacement based on output from a random number generator.⁴

In the field, second-stage sampling of pupils and teachers followed the outline below. ALIGN was unable to obtain pupil and teacher sampling frames in order to centralize random sampling. As such, systematic sampling was judged to be the easiest to administer by data collectors upon arrival at schools. Details on the second-stage systematic sampling are available in Appendix D.

⁴ As found at www.random.org.

Outcome	Key Question	Second Stage Sampling Method
MGD SO1: Improved Literacy of School-Age Children	What is the percentage 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?	19 Class 3 pupils systematically sampled from sampling frame of all Class 3 pupils at each sampled project and comparison school
MGD 1.1: Improved Quality of Literacy Instruction	What is the percentage of teachers engaged in “active instruction” for 50%+ of literacy instruction time?	5 Class 1-6 teachers systematically sampled from sampling frame of all Class 1-6 teachers at each sampled project and comparison school
MGD 1.2: Improved Student Attentiveness	What is the percentage of classroom time in which all but ≤5 students are “on-task”?	5 Class 1-6 teachers systematically sampled from sampling frame of all Class 1-6 teachers at each sampled project and comparison school
MGD SO2: Increased Use of Health and Dietary Practices	What is the percentage of school-age children receiving a minimum acceptable diet?	20 Class 1-6 pupils systematically sampled from sampling frame of all Class 1-6 pupils at each sampled project and comparison school

Throughout November 2015, four teams visited schools to gather data on the Key Questions. Each team was comprised of seven to nine people:

- 2 team captains, who sampled pupils from class registers, checked forms for completeness and accuracy, liaised with school officials, and provided general supervision
- 2-3 data collectors assigned to the EGRA tool investigating MGD SO1
- 2 data collectors assigned to the Stallings tool investigating MGD 1.1 and 1.2
- 1-2 data collectors assigned to the dietary diversity tool investigating MGD SO2

Captains were permanent Nascent Solutions staff. Data collectors were temporarily hired through a competitive process seeking candidates with the following qualities: fluent in English, strong literacy and numeracy skills, energetic, and experience with data collection forms. In an attempt to incentivize focus and diligence, data collectors were reminded throughout the process that the top 10 would receive permanent positions with ALIGN.

All data collectors participated in a four-day, classroom-based training covering several topics. They first received four hours of orientation on ALIGN, the baseline survey’s purpose and key questions, and its basic methodology. Next, they engaged in training on use of the three tools. The EGRA training was comprised of 16 hours of lecture, discussion, practice with peers, video demonstrations, and critiques from training facilitators. The Stallings training was comprised of seven hours of lecture, discussion, live role plays, video from Bui classrooms, and critiques from training facilitators. The dietary diversity survey training was comprised of five hours of lecture, discussion of dietary practices in Bui, practice with peers, and critiques from training facilitators. These classroom sessions prepared data collectors to test the tools in a school setting during the fifth and sixth days of training. The testing and subsequent training is discussed in individual Key Question methodology sections.

Each team visited one school per day on a Monday-Friday basis over approximately four weeks. They arrived near the beginning of the school day at 8:00AM and departed around 11:00AM or 12:00PM. All teams visited both project and comparison schools in roughly equal numbers. Due to delays in obtaining a sampling frame of potential comparison schools, teams visited nearly all 40 project schools before turning to the comparison group.

Neither data collectors nor teachers or pupils were aware that their school was part of the project or comparison group. The administrative heads of schools were informed one day prior to the data collection exercise that it would be taking place. This may have allowed for a small amount of preparation and enhanced teacher and pupil attendance, but it was a necessary step to ensure an efficient visit. Teams endeavored to maintain a low profile while visiting schools, in an effort to not bias data or disrupt learning.

Data were collected via paper forms and entered at the Kumbo office by temporary clerks after three days of training. Data were entered into a Microsoft Excel spreadsheet with data validation safeguards. Each observation entry was checked and confirmed by a peer data entry clerk.

Details of data analysis are discussed in the individual Key Questions methodology sections below. For this report, possible confounding and interaction among associations was not investigated. All tests for significance were conducted at a five percent alpha level. All statistical analyses were conducted using R version 3.2.2, copyrighted by The R Foundation for Statistical Computing. Analysis relied heavily on the *survey* package for analyzing complex survey samples, created and maintained by Thomas Lumley.⁵

MGD SO1 (EGRA) Methodology

The Early Grade Reading Assessment (EGRA) is a collection of highly valid literacy assessments developed by RTI in 2006 with financial support from USAID and the World Bank. EGRA is a comprehensive measure of literacy, with tools spanning the phonemic awareness, phonics, fluency, vocabulary, and comprehension which are considered to be the essential components of effective reading instruction.⁶ These areas of focus are predictive of eventual reading ability, can be easily measured, and are highly influenced by the type and quality of instruction taking place within the classroom.⁷ EGRA is an adaptable tool, requiring contextualization to ensure appropriateness of the assessment language and level. It has been implemented in over 60 countries with assessments in over 100 languages since its inception in 2006.⁸

Nascent Solutions chose EGRA as its literacy assessment tool because of its ease of implementation and impressive track record in developing nations. As an assessment that targets basic literacy skills essential for first through fourth graders, EGRA is well-suited to measure ALIGN's impact on improving literacy skills of pupils by the end of second grade. With tools that measure literacy skills across the learning continuum, EGRA provides data that elucidates the capabilities of learners with precision. Nascent recognizes the value of this assessment not only on tracking progress towards program goals, but also in providing data to inform interventions providing teacher training and provision of materials.

⁵ See <http://r-survey.r-forge.r-project.org/survey/index.html>, accessed January 12, 2016.

⁶ Early Grade Reading Assessment Toolkit, RTI International, 30 Mar 2009 (<https://www.eddataglobal.org/documents/index.cfm?fuseaction=pubDetail&id=149>).

⁷ RTI Presentations, EGRA/EGMA Workshop, 56th Annual Conference of the CIES, April 2012 (<https://www.eddataglobal.org/documents/index.cfm?fuseaction=pubDetail&ID=415>)

⁸ RTI EGRA Tracker, 2015 (<https://www.eddataglobal.org/documents/index.cfm?fuseaction=pubDetail&id=188>)

Prior to the commencement of the ALIGN baseline survey, a thorough review of EGRA guidelines and data collection tools utilized in other countries was conducted. Time and resource constraints of the baseline were balanced against EGRA recommendations, with the ultimate decision to administer only the subtests deemed essential by RTI.⁹ The scope of EGRA thus includes letter naming fluency, letter sound fluency, non-word reading, oral reading fluency and comprehension, and listening comprehension. Biographical questions for the initial interview with pupils were drafted based on EGRA tools used in other African countries. Efforts were made to keep the interview brief while providing data that could yield insights to the factors underlying EGRA scores, such as home language, ability and attitude towards English, whether or not pupils ate prior to school, have time for reading at school, and access to homework help and reading materials at home. Selected indicators from Mark Schreiner's *A Simple Poverty Scorecard for Cameroon*¹⁰ were also included to allow for consideration of socioeconomic status in relation to literacy skills.

In accordance with EGRA guidance, a sample of grade two reading materials from project area schools was collected, digitized, and analyzed to identify the most common letters and words. Templates for all subtests were created, with uniform formatting of instructions and data collection boxes to ease administration. For the letter naming fluency and letter sound fluency subtests, a randomized set of 100 letters was created in two steps: the first 52 letters were determined by randomizing the full alphabet in both upper and lower case letters, while the remaining 48 letters were randomized based on proportion of occurrence in the sample text collected. The non-word subtest was developed through the creation of a list of non-words which were reviewed against languages in use in the project area (French, Lamnso, Noni, and Oku), with several iterations of revision to replace overlapping words. A list of local names to be incorporated in the reading and listening passages was provided by local staff. Multiple reading and listening passages were drafted, with accompanying comprehension questions, in line with the context and difficulty level of the grade two sample texts. All passages were reviewed by local staff, with revisions in accordance with staff feedback. Revisions continued during the training sessions based on the contextual input provided by data collectors and local staff.

On day five of training, all data collectors had the opportunity to practice administering EGRA with two pupils. Team captains observed these activities, making use of an observation checklist¹¹ to guide their supervision and upon which they were able to give scores and feedback to the data collectors. The scores from the checklist and general observations from training practice sessions were reviewed to determine top performers for assignment as EGRA data collectors. Criteria considered included efficiency with the timer, accuracy in tool implementation and scoring, welcoming and responsive demeanor, and attention to detail. Once assigned to the EGRA tool, data collectors had a second practice day which provided the opportunity to administer a minimum of five EGRAs. Team captains continued to observe, make notes on checklists, and provide feedback and guidance to improve

⁹ Guidance Notes for Planning and Implementing EGRA, RTI International and International Rescue Committee, July 2011, pg. 19.

¹⁰ See http://www.microfinance.com/English/Papers/Scoring_Poverty_Cameroon_2007_EN.pdf.

¹¹ Adapted from Guidance Notes for Planning and Implementing EGRA, RTI International and International Rescue Committee, July 2011, p. 80-82

performance between each pupil. Throughout data collection, team captains liaised with the trainer to clarify remaining questions, provided individual coaching to data collectors, and facilitated group debriefing sessions.

Sampling of schools – the first stage of this two-stage cluster sampling design – was previously discussed. The second stage, pupil sampling, was conducted at school sites by two trained team captains. They randomly selected 19 pupils from each school’s class three register. The protocol outlined in Appendix D details the process. Pupils who were selected for assessment but were absent were replaced by the next name on the list.

Though the SO1 indicator calls for an evaluation of pupils who are finishing class two, the timing of the MGD award to Nascent did not allow it (the award was made in July 2015, with a baseline report due in January 2016. The school year in Cameroon runs from September to May). ALIGN determined that class three pupils in approximately their third month of classes were the most appropriate proxies. This choice will likely serve to overstate the true value of the SO1 indicator.

EGRA data collection included pupil biographical data in addition to the assessment subtests. The EGRA subtests provided several types of data: subtest scores are discrete, time remaining upon completion is continuous, and whether pupils discontinued early is nominal. Letter name fluency, letter sound fluency, non-word reading, and oral reading fluency subtests collected all three types of data. The subtests focused on reading and listening comprehension collected only discrete data in the form of number of correct responses.

Data were collected from 766 pupils at 40 project schools. Due to wholly incomplete subtest data, 12 project pupils were excluded from analysis. Analyses were conducted on the remaining 754 pupils.

Data were also collected from 763 pupils at 40 comparison schools. Due to wholly incomplete subtest data, three comparison pupils were excluded from analysis. Analyses were conducted on the remaining 760 pupils.

Schools served as the primary sampling unit while class three pupils served as the secondary sampling unit. The finite population correction was utilized, as project observations were obtained from a frame of 92 schools and a mean of 33 pupils per class three, while comparison observations were obtained from a frame of 297 schools and an approximate mean of 34 pupils per class three.

All six EGRA subtests were analyzed for four outcomes:

- Proportion of scores which met ALIGN indicator MGD SO1 benchmarks;
- Mean score
- Mean score excluding zero scores
- Proportion of pupils recording zero scores

The reading comprehension subtest was also analyzed to discover the mean score of pupils who were asked a question.

Across the mean score outcome and proportion of pupils recording zero scores outcome, subtests were assessed for differential effects on a variety of characteristics: school type, school location, pupil gender, pupil age, pupil language, pupils' estimated household wealth, whether the pupil ate before school, whether the pupil had time to read books daily, whether the pupil received homework help at home, and whether the pupil's home had reading material.

Pearson chi-squared tests, using subtest benchmark achievement as the dichotomous outcome and project/comparison school categorization as the dichotomous covariate were conducted. The same was done using pupil scoring zero as a dichotomous outcome. P-values were computed with a Satterthwaite approximation to the distribution.

Linear regression was used to test for associations in the two outcomes examining mean scores.

MGD 1.1 and 1.2 (Stallings) Methodology

The Stallings Observation System (Stallings) provides a quantitative measure of key classroom variables influencing the efficacy of teaching and learning, including use of instructional time, use of materials, core pedagogical practices, and student engagement.¹² Stallings includes a classroom observation composed of a series of ten 15-second snapshots spread evenly throughout a class period. During each snapshot, the teacher and pupils are placed on a matrix indicating the activities in which they are engaged and any materials being used. Initial research targeted classrooms in the United States and found that the most effective teachers- those whose pupils achieved the highest levels of achievement- spent 50 percent or more of classroom time on active instructional activities, 35 percent or less time on passive instructional activities, and 15 percent or less time on classroom management.¹³ In these highly effective classrooms, pupils were engaged at least 94 percent of the time.¹⁴ The reach of Stallings has spread across the globe, with the World Bank supporting research in several countries. Nascent Solutions recognizes the value of Stallings in capturing both teacher efficacy and pupil attentiveness, allowing for the administration of one data collection tool to measure multiple key programmatic indicators. After considering several classroom observation tools against ALIGN's goals, timeline and available resources, Stallings was selected in light of its vast evidence-base and upon personal recommendation of several education scholars.

In preparation for the baseline survey, sample Stallings snapshot collection tools were reviewed. The ALIGN Education team compared materials and activity categories against the classroom contexts of Bui

¹² World Bank. 2015. Conducting classroom observations : analyzing classrooms dynamics and instructional time - using the Stallings 'classroom snapshot' observation system : user guide. Washington, D.C. : World Bank Group. (<http://documents.worldbank.org/curated/en/2015/07/24756165/conducting-classroom-observations-analyzing-classrooms-dynamics-instructional-time-using-stallings-classroom-snapshot-observation-system-user-guide>)

¹³ Stallings Snapshot Observation Manual. 2007. Modified for use in the World Bank Projects. Texas A&M University. (https://www.eddataglobal.org/embedded/stallings_snapshot.doc)

¹⁴ Stallings, Jane A.; Knight, Stephanie L.; Markham, David. 2014. Using the Stallings observation system to investigate time on task in four countries. Washington, DC ; World Bank Group. (<http://documents.worldbank.org/curated/en/2014/01/20371434/using-stallings-observation-system-investigate-time-task-four-countries>)

division schools in an effort to make the tool as simple and relevant as possible. “Manipulative”, “cooperative”, and “ICT” materials were eliminated from the materials columns as they were deemed less relevant in the project context. The activity list more closely followed the adapted World Bank tools by eliminating “kinesthetic/projects” and other categories from the Stallings manual. To differentiate instructional activities like lecturing from instructions given to students, the “verbal instruction” category was changed to “verbal directions”. The tool was further simplified by: combining small (S) and large (L) group pupil categories into a multiple (M) category for instructional activities, replacing entire class (E) with all (A), and inserting pupil (P) instead of student (I). To further facilitate swift and accurate data collection during snapshots, a coding key was included on the data collection forms.

On the fifth day of data collector training, each participant completed one classroom observation in a practice school. Observations took place in groups of four to five data collectors, each group being paired with a trainer. Groupings were necessitated both by the limited number of classrooms available for observation and the need to assess ability to effectively implement the tool. After the observation was completed, the timing of the snapshots and coding results were compared across the group and against the trainer to determine which data collectors had the highest rates of reliability. Results from the practice day and general observations from data collector training were considered to determine which six data collectors were assigned to Stallings. During the second practice day, assigned data collectors administered at least two classroom observations. For the first, a group of data collectors conducted the observation alongside a trainer to allow for comparison of timing and coding afterwards. After debriefing the experience, data collectors split into pairs to administer a second observation. This level of practice was all that was feasible given the time and available classroom constraints. By the end of the second day of practice, all assigned data collectors expressed confidence and demonstrated competency with the tool. During the first week of data collection, team captains communicated regularly with trainer to clarify persisting issues. At the end of each day, captains reviewed observation notes and coding to minimize missing data and to catch coding mistakes that may have been made during the observation. Captains continued to provide targeted coaching throughout data collection to ensure high quality observations were captured.

Sampling of schools – the first stage of this two-stage cluster sampling design – was previously discussed. The second stage, teacher sampling, was conducted at school sites by two trained team captains. They randomly selected five teachers from each school’s teacher register. The protocol outlined in Appendix D details the process. Teachers who were selected for assessment but turned out to be absent were replaced by the next name on the list.

Stallings is a complex observation tool that collects a vast array of data. Through brief interviews, teacher demographics were captured including nominal data related to gender, whether or not the teacher originates from Bui Division, teacher training level, and teacher contract type as well as discrete data about their length of tenure at the school. Classroom information was also captured, including ordinal data on the level of class observed and nominal data on the subjects taught and whether or not there were blackboards and other visual aids in the classroom. Ordinal data was collected on estimated percentage of pupils with textbooks and notebooks in classroom at the time of observation. Class enrollment and attendance, including analysis by gender, provided discrete data. The snapshots

themselves deliver nominal data regarding the type of activity in which teachers and pupils were engaged as well as the type of material being used. The scale of number of pupils involved in the activity provided ordinal data. Additionally, each snapshot included ordinal data regarding its position within the series of ten snapshots, and a continuous measure of the time of day at which the observation took place.

Data collectors observed 197 teachers at 40 project schools, yielding 1,970 snapshots. Data collection teams also observed 218 teachers at 44 comparison schools, yielding 2,180 snapshots.

Schools served as the primary sampling unit while teachers at all levels served as the secondary sampling unit. The finite population correction was utilized, as project observations were obtained from a frame of 92 schools and a mean of about six teachers per school, while comparison observations were obtained from a frame of 297 schools and a mean of about six teachers per school.

Analysis focused on several outcomes:

- Proportion of teachers who met the ALIGN indicator MGD 1.1 benchmark for active instruction;
- Proportion of classrooms which met the ALIGN indicator MGD 1.2 benchmark for pupils on-task;
- Proportion of active instruction composite activities among all snapshots;
- Proportion of classroom management composite activities among all snapshots;
- Proportion of passive instruction composite activities among all snapshots;
- Proportion of teacher off-task time composite activities among all snapshots;
- Proportion of pupil on-task composite activities among all snapshots;
- Proportion of teaching activity categories individually among all snapshots.

Linear regression was used to test for associations involving all outcomes. The active instruction, pupil off-task, and classroom management outcomes were assessed for differential effects on a variety of characteristics: school type, school location, teacher gender, class observed, subject observed, class size, teacher school tenure, teacher employment, teacher training background, teacher place of origin, and the prevalence of blackboards, visual aids, textbooks, and notebooks. Descriptive statistics were conducted on the same characteristics.

MGD SO2 (DDS) Methodology

The dietary diversity score (DDS) is part of MGD standard indicator 23, and is the sum of the number of different foods or food groups consumed by an individual or household over a specific time period, for this baseline study, a 24-hour period. As the number of food groups consumed increases there is a correlation to adequate access to essential nutrients. Often among food insecure populations, diets are based on starchy staples and include little or no animal products or fresh fruits or vegetables. Nutrient inadequacy is a common outcome.¹⁵

¹⁵Comprehensive Food Security & Vulnerability Analysis Guidelines. 2009. World Food Programme. http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp203208.pdf. Accessed 1/11/2016

Although there are many ways to measure and record this information, SO2 is modeled after UNFAO's individual dietary diversity score.¹⁶ This tool is relatively simple to use as an approximation of nutrient consumption, and records quality or nutrient adequacy. The ALIGN program's use of the tool included recording one day of intake, therefore results are valid at the population level, rather than for the individual measured.

Prior to the data collection activity, several discussions were necessary to contextualize the tool. These discussions involved listing various common foods, determining names, explaining the contents of mixed foods as part of the sorting into the main food groups, and determining significant consumption. See Appendix C for the localized DDS Tool.

The population of the study consists of four main language and cultural groups, but data collectors recorded most foods in their English names to facilitate ease of analysis. In the contextualization session of training, the trainers and data collectors discussed mixed foods and set a standard size to ensure the dietary quality argument remained relevant. A minimum standard was set to measure significant consumption similar to US Dietary Guidelines. See Appendix C for the standards used. For the calculation of MGD SO2, analysis included all dietary consumption, regardless of meeting the standard.

To collect information for the DDS, pupils participate in a 24-hr recall, or an interview of their previous day's food intake. The facilitators used tools and materials to facilitate this process including bowls, serving and cooking spoons, cup measurements, and plates to assist the pupils in determining volume. These measurements were intended to approximate adequate nutrient intake, rather than to calculate caloric consumption. The utensils and materials were familiar to most households, facilitating data collection and quantity measurements. Data collectors preferred the use of the utensils to assist pupils in visualizing consumption, but also to determine moments of exaggeration that infrequently occurred.

Twenty-five field monitors received three to four hours of training, and participated in a two-hour discussion about food in Bui division to assist in the contextualization of the tool. To assist our selection process, each monitor spent one-third of a day of practice on the fifth training day. A debriefing session followed this assessment. Of the 25 trainees, ALIGN nutrition team selected five to administer the DDS. Several alternates were available within each team to facilitate any delays. The DDS data collectors were selected based on their skills in pupil interaction, volume measurement, and comprehension of food groups. Each data collector joined a team of EGRA and Stallings administrators headed by two captains who monitored their work throughout the school activities. After the selection, the field monitors were given an additional day of field practice within their teams, and follow up session to debrief and discuss specific guidance to the Cameroonian context based on the practical experience. Team captains, who were also trained on the tool, fielded questions and concerns while on campus. Team captains checked the materials daily, while data entry personnel checked for completion again upon data entry.

¹⁶ Kennedy G, Ballard T and Dop M. 2010. Guidelines for Measuring Household and Individual Dietary Diversity. Nutrition and Consumer Protection Division, Food and Agriculture Organization of the United Nations. <http://www.fao.org/docrep/014/i1983e/i1983e00.pdf>. Accessed 1/11/2016.

Sampling of schools – the first stage of this two-stage cluster sampling design – was previously discussed. The second stage, pupil sampling, was conducted at school sites by two trained team captains. They systematically selected 20 pupils from each school. The protocol outlined in Appendix D details the process. Pupils who were selected for assessment but turned out to be absent were replaced by the next name on the list.

Data collectors conducted interviews primarily in English, but no restriction was made on the language of the discussion. DDS data collection included a 24-hr recall, including time, food items, amount, purchase price if consumed outside the home, and intake compared to a normal day (Appendix C). Data collection forms included a grid (in Appendix C) to record the 24-hr recall results and a data entry table for the initial analysis and sorting of food groups after the interview. In Appendix C, data collectors sorted the subject's consumption into nine food groups. Data collected included: The food item (qualitative nominal), the quantity (quantitative discrete), price paid (quantitative discrete), and time (qualitative nominal).

Qualitative observations mainly comprised of biographical information: gender (nominal), grade level (ordinal), and age (discrete). ALIGN collected quantitative and qualitative data to analyze the influence of socio-economic status. Although some of the responses are not innately ordinal, in our tool they are scored numerically based on Mark Schreiner's *A Simple Poverty Scorecard for Cameroon* to create a continuous quantitative socioeconomic variable. The following variables have been assigned numerical values to indicate their ordinality: Number of household members, farming status, household flooring, household cooking fuel, electric iron ownership, ownership of radio and or television, and ownership of household wardrobe furniture (see Appendix C).

Data were collected from 805 pupils at 40 project schools. Due to wholly incomplete EGRA subtest data, six project pupils were excluded from analysis. Analyses were conducted on the remaining 799 pupils.

Data were also collected from 800 pupils at 40 comparison schools. Due to wholly incomplete food consumption data, one comparison pupil was excluded from analysis. Analyses were conducted on the remaining 799 pupils.

Schools served as the primary sampling unit while class one to six pupils served as the secondary sampling unit. The finite population correction was utilized, as project observations were obtained from a frame of 92 schools and a mean of 226 pupils per school. Comparison observations were obtained from a frame of 297 schools. Exact mean pupils per comparison school were unknown but estimated at 226 pupils per school, based on class three figures.

Analysis focused on two outcomes:

- Proportion of scores which met the ALIGN indicator MGD SO2 Minimum Acceptable Diet benchmark;
- Proportion of pupils consuming food groups categories and composite categories.

Both outcomes were assessed for differential effects on a variety of characteristics: school type, school location, pupil gender, pupil class level, pupils' estimated household wealth, and whether the pupil had a normal day of consumption. Linear regression was used to examine association between the number of meals consumed and these characteristics.

Pearson chi-squared tests, using Minimum Acceptable Diet attainment as the dichotomous outcome and project/comparison school categorization as the dichotomous covariate were conducted. P-values were computed with a Satterthwaite approximation to the distribution.

Methodology for other indicators

In addition to the project's Key Questions, ALIGN gathered baseline data on other indicators:

Number	Output/Outcome	Indicator	Data Source
MGD 1.1.1	More Consistent Teacher Attendance	% of teachers regularly (90%+) reporting to USDA-supported classrooms/ schools in November 2015	Review of teacher attendance registers kept at the school
MGD 1.3	Improved Student Attendance	# of students regularly (80%) attending USDA supported schools in November 2015	Review of student attendance registers kept at the school
MGD 1.3.4	Increased Student Enrollment	# of students enrolled in schools receiving USDA assistance as of November 2015	Review of student enrollment registers kept at the school
MGD 2.4	Increased Access to Clean Water and Sanitation Services	1. # of schools using an improved water source in December 2015; 2. # of schools with improved sanitary facilities in December 2015	Direct observation of school infrastructure
MGD 2.5	Increased Access to Preventative Health Interventions	# of students receiving deworming medication(s) in the 2014-15 school year	Review of student deworming records kept at the school

ALIGN developed a two-page form to collect data on these items and to generally establish "school profiles" for the 92 project schools. The form sought quantitative and qualitative data on the indicators above, as well as the school's weekly amount of English language instruction and mid-day breaks. Teacher and student attendance data was categorized daily as yes/no. If the teacher or student attended any part of the school day, they were categorized as "yes". Student enrollment was continuous data counting each pupil present on the official class register. Data on water sources and sanitary facilities was categorized as yes/no, depending on the MGD 2.4 Standard Indicator definition provided by USDA. Deworming data was continuous data counting each student who was documented to have received deworming medication in the 2014-15 school year.

The form was reviewed by ALIGN M&E staff for clarity, and validity. ALIGN staff received training on use of the form during a four-hour group session in December 2015. The session addressed approaches to encouraging cooperation among head-teacher interviewees, question protocol, and calculations. The form was piloted at four schools, and slight alterations were made to improve clarity and efficiency.

Nine data collectors visited the 92 project schools over eight days in December 2015. They met with head teachers and PTA chairpersons, and reviewed school records to capture the required information. Data on enrollment, attendance, and deworming was collected through secondary data review, with

calculations done by ALIGN staff. Information on infrastructure was gathered through direct observation and assessment using USDA criteria.

Data was entered into a Microsoft Excel spreadsheet with data validation safeguards by three trained data entry staff. Data was analyzed within Excel using the following methods:

- Teacher attendance: Schools do not currently keep data in a manner that allowed ALIGN to calculate according to the indicator definition. Four out of 92 schools kept incomplete data, and they are not included in the calculation. ALIGN conservatively estimated the indicator definition by assuming the following about teacher attendance dispersion around the mean at the school-level:
 - School-wide teacher attendance of 97% or greater was driven by 95% of individual teachers meeting the indicator definition of 90%+ attendance, then rounding down to the nearest whole number;
 - School-wide teacher attendance of 90-96.9% was driven by 50% of individual teachers meeting the indicator definition of 90%+ attendance, then rounding down to the nearest whole number;
 - School-wide teacher attendance of 80-89.9% was driven by 25% of individual teachers meeting the indicator definition of 90%+ attendance, then rounding down to the nearest whole number;
 - School-wide teacher attendance of 70-79.9% was driven by 10% of individual teachers meeting the indicator definition of 90%+ attendance, then rounding down to the nearest whole number;
 - School-wide teacher attendance of less than 70% was driven by 0% of individual teachers meeting the indicator definition of 90%+ attendance.
- Student attendance: Schools do not currently keep data in a manner that allowed ALIGN to calculate according to the indicator definition. Of the 92 schools, 11 kept incomplete data, and they are not included in the calculation. ALIGN conservatively estimated the indicator definition by assuming the following about pupil attendance dispersion around the mean at the school-level:
 - School-wide student attendance of 95% or greater was driven by 95% of individual students meeting the indicator definition of 80%+ attendance, then rounding down to the nearest whole number;
 - School-wide student attendance of 90- 94.9% was driven by 75% of individual students meeting the indicator definition of 80%+ attendance, then rounding down to the nearest whole number;
 - School-wide student attendance of 80-89.9% was driven by 50% of individual students meeting the indicator definition of 80%+ attendance, then rounding down to the nearest whole number. No school reported aggregate attendance of less than 80%.
- Student enrollment from all classes was summed.
- Schools observed having improved water sources and improved sanitary facilities were summed.

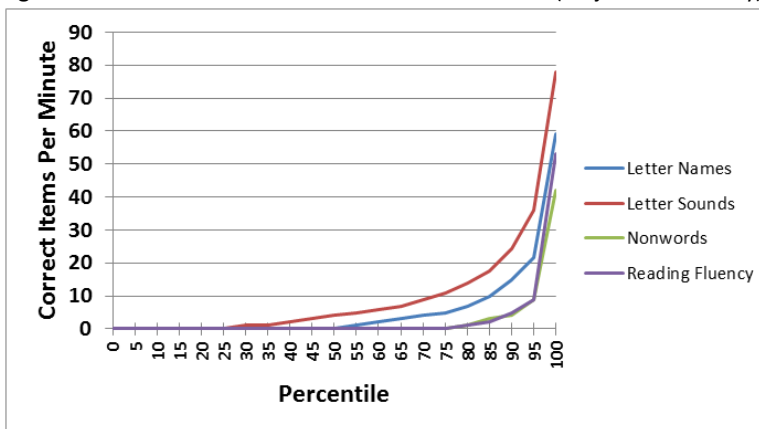
- Summation of the number of students who received deworming medication. However, 26 out of 92 schools where deworming data was not available, students were assumed to have been dewormed at the same proportion of enrollment as the 66 schools which did possess data.

Results and Discussion

MGD SO1: Percent of students who, by the end of grade two demonstrate they can read and understand the meaning of grade level text

The ALIGN program consists of a package of educational, nutritional, and health-related interventions intended to holistically improve the literacy skills of primary school pupils. A composite score from EGRA subtests is used to measure the percentage of pupils who demonstrate reading and comprehension skills by the end of two grades of primary school (see Methodology section for further explanation of indicator). The baseline survey found that none of the sampled pupils met the literacy standard for all subtests. Thus the initial measure of MGD SO1 is 0 percent of pupils demonstrating grade-level literacy

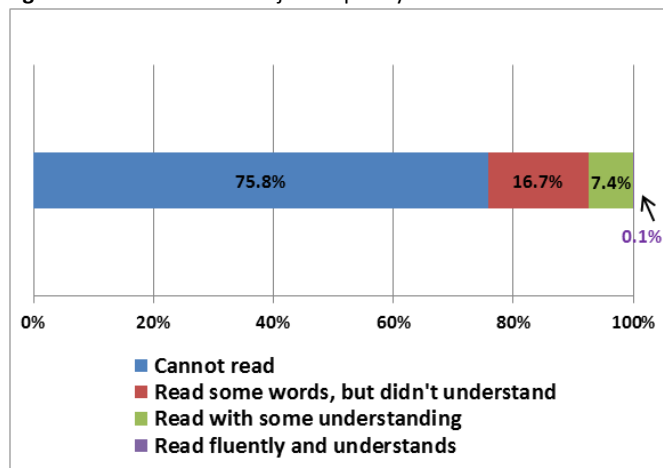
Figure 1. Performance distribution on all timed subtasks (Project schools only)



Credit: ALIGN 2016

skills. Figure 1 highlights the distribution of timed test scores according to pupil percentile, demonstrating that EGRA performance was skewed heavily towards low scores. Three of the four timed subtests had a score of zero at the 50th percentile. Even at the 95th percentile, pupils fail to meet the minimum standard for letter names and oral reading fluency.

Figure 2. Distribution of Project Pupils by EGRA Performance Level



Credit: ALIGN 2016

Further analysis of EGRA results provides a more nuanced and useful perspective of pupils' ability to read and understand text. By taking a different approach to categorizing EGRA data, we find that around one quarter of pupils demonstrate some reading ability. Figure 2 demonstrates that 7.4 percent of project school pupils are able to read with some understanding, and only 0.1 percent read fluently and understand what they have

Cannot read: Oral reading fluency score is zero

Read some words, but didn't understand: Oral reading fluency score is > 0 but first reading passage was not completed or reading comprehension scores is < 40% correct of those attempted

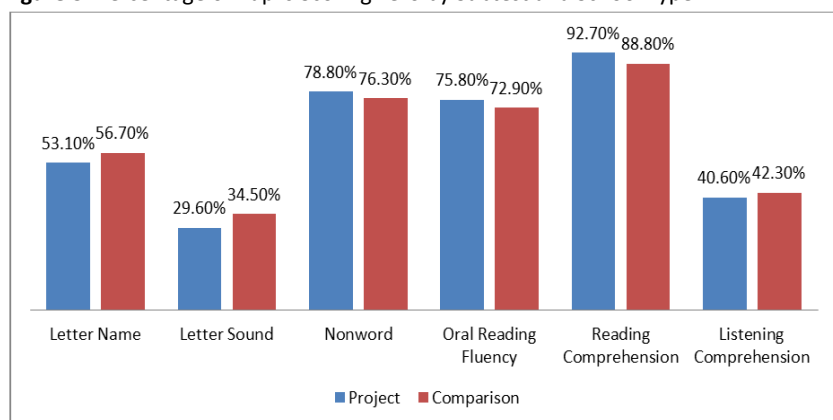
Read with some understanding: Oral reading fluency score is > 0 and reading comprehension score is 40% or higher of those attempted

Read fluently and understands: Oral reading fluency score is ≥ 35 CWPM and reading comprehension ≥ 60% correct of all questions

read.

As these results demonstrate, pupils in Bui division have limited literacy skills. Large proportions of pupils were unable to provide a single correct response on the EGRA subtests, hereafter referred to as “zero scores”. As Figure 3 shows, there were fewer zero scores on the letter sound and listening comprehension subtests, while the vast majority of pupils scored zero on the non-word, oral reading fluency, and reading comprehension subtests.

Figure 3. Percentage of Pupils Scoring Zero by Subtest and School Type



Credit: ALIGN 2016

fluency, and reading comprehension subtests. This pattern of poor scores is consistent across project and comparison schools alike.

Figure 4 summarizes the EGRA results for all schools sampled as part of the ALIGN baseline. No statistically significant differences exist in the percentage of pupils with zero scores; however some differences do exist in mean scores. Comparison schools’

mean scores were slightly higher for non-word and oral reading fluency subtests, significant at a 5% level. This may indicate that comparison schools are providing slightly better decoding instruction, an essential literacy skill for pupils to decipher unfamiliar words and gain fluency in reading. No significant differences exist in the distribution of pupil zero scores by school type. However, when zero scores were omitted from analysis, mean scores were consistently and statistically significantly higher for comparison schools compared to project schools for all subtests except for reading comprehension. This seems to suggest that literacy instruction at both types of school fails to equip many pupils with the skills necessary to perform on EGRA subtests, yet comparison schools may be more successful at transferring literacy skills to those pupils who have some reading ability. Having acknowledged these common trends and differences, the remainder of baseline results discussion will focus on the EGRA scores of sampled project schools.

With over half (53.1%, 95% CI (47.4, 58.9)) of pupils scoring zero and a mean score of 4.4 (95% CI (3.4, 5.3)) correct letters per minute, letter name results differed greatly from the minimum standard of 40 correct letters per minute. The mean letter name score doubled when zero scores were excluded from analysis; for the 354 pupils who were able to name at least one letter, the mean score was 9.2 (95% CI (7.7, 10.8)) correct letters per minute. Even this subset of pupils falls well below the targeted fluency level. These results point to a critical gap in learning, as the ability to read and write hinges upon letter recognition skills. Contrary to the hypothesis that letter names serve as a gateway to literacy, the baseline revealed that letter name recognition was not the most prevalent literacy skill. Instead, letter sounds had a higher mean score and lower rate of zero scores.

Less than one third (29.6% (95% CI (26.0, 33.2)) of pupils were unable to correctly provide a letter sound, representing the lowest percentage of zero scores of any EGRA subtest. However, the mean score of 8.3 (95% CI (6.6, 10.0)) is significantly below the fluency standard of 30 correct sounds per minute. When the 223 pupils with zero scores are excluded from analysis, the mean score increases to 11.7 (95% CI (9.5, 13.9) correct sounds per minute. This indicates that even by third grade, most pupils lack fluency in translating letters into corresponding sounds.

Figure 4. Mean scores on EGRA

EGRA Subtest	Mean Score		Percentage of Pupils who Scored Zero		Mean Score (Excluding Pupils with Zero Scores)	
	Project	Comparison	Project	Comparison	Project	Comparison
Letter Name	4.4 CLPM	5.1 CLPM	53.1%	56.7%	9.2 CLPM***	11.8 CLPM***
Letter Sound	8.3 CSPM	9.1 CSPM	29.6%	34.5%	11.7 CSPM**	13.9 CSPM**
Non-word	1.3 CWPM*	2.1 CWPM*	78.8%	76.3%	6.1 CWPM***	8.6 CWPM***
Oral Reading Fluency	1.4 CWPM*	2.3 CWPM*	75.8%	72.9%	5.9 CWPM***	8.6 CWPM***
Reading Comprehension¹⁷	2% Correct ¹⁸	2% Correct ¹⁹	92.7%	88.8%	22% Correct	22% Correct
Listening Comprehension	26% Correct	28% Correct	40.6%	42.3%	42% Correct**	46% Correct**
Project: n=754 Comparison: n=760 * represents significance at the 0.05 probability level ** represents significance at the 0.01 probability level *** represents significance at the 0.001 probability level						

Credit: ALIGN 2016

With limited ability to recognize letters and translate them into sounds, it is rather unsurprising that more than three quarters (78.8% (95% CI (74.3, 83.3)) of pupils were unable to read an unfamiliar word on the non-word subtest. The mean score was 1.3 (95% CI (0.9, 1.7)) correct words per minute, which increased drastically to 6.1 (95% CI (5.1, 7.1)) for the 160 pupils who were able to read a non-word. Both mean scores are below the standard of 10 correct words per minute, although the pupils who performed came much closer to achieving the standard than on the first two subtests. Overall, this data indicates that pupils lack the decoding skills necessary to read unfamiliar words. It also seems to indicate that once pupils gain the skill, they are able to utilize it with some regularity.

Interestingly, the results of the oral reading fluency subtest closely mirror those of the non-word reading. The mean score for all pupils was 1.4 (95% CI (1.0, 1.9)) correct words per minute, with 75.8

¹⁷ Average score reflects all pupils, even those who were not asked a reading comprehension question due to low performance on the ORF subtest. Percentage correct is taken out of all 5 questions possible, rather than only those attempted.

¹⁸ The average score of the 136 pupils who were asked at least one question was 37.5% correct of those attempted.

¹⁹ The average score of the 182 pupils who were asked at least one question was 39.7% correct of those attempted.

percent (95% CI (69.8, 81.7)) of pupils unable to read a single word of the passage. For the 183 pupils who successfully read at least one word, the mean score was 5.9 (95% CI (4.5, 7.3)) correct words per minute. Both of these mean scores represent only a fraction of the minimum standard score of 35 correct words per minute required to demonstrate oral reading fluency. The baseline results indicate limited literacy skills across the spectrum from initial recognition of letters to reading more generally.

Given that the ability to read is a prerequisite for reading comprehension, it follows that this is the subtest with the lowest scores. In total, 92.7 percent (95% CI (90.2, 95.2)) of pupils were unable to correctly answer a single reading comprehension question. This figure includes the 571 pupils who were unable to read a single word, and thus were not asked any comprehension questions, in addition to those pupils who answered a question(s) incorrectly. The overall mean score was 2 percent correct, compared against a minimum standard of 40 percent correct on reading comprehension. It is worth noting that the 136 pupils who were asked at least one reading comprehension question correctly answered 37.5 percent (95% CI (30.0, 45.0)) of those attempted, a figure approaching the minimum standard. Taken together, this data indicates that the majority of pupils lack the reading skills necessary to gain comprehension, yet those pupils who are reading with some success also seem to understand what they read to some extent.

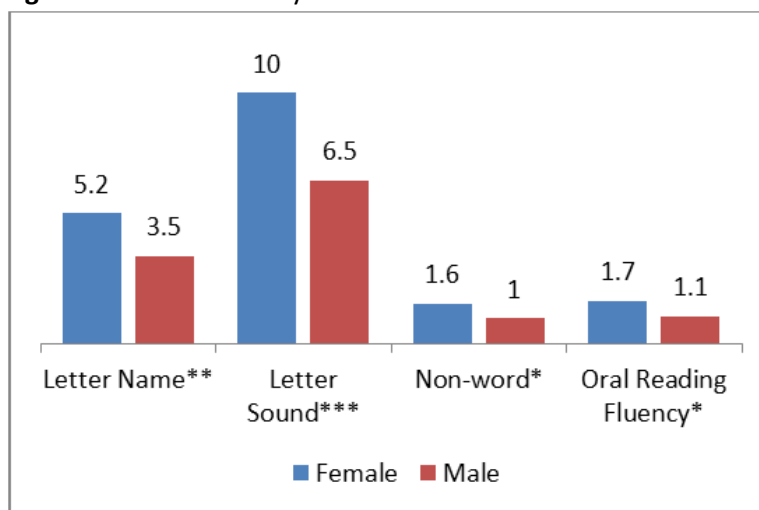
Diverging from the realm of reading but still focused on pupils' ability to understand an English passage, the listening comprehension subtest yielded significantly better results. Although 40.6 percent (95% CI (33.6, 47.6)) of pupils were still unable to correctly answer a single question, the mean score was 26 percent (95% CI (22.0, 30.0)) correct. When the scores of only the 448 pupils who were able to answer a question correctly are considered, the mean score increases significantly to 42 percent (95% CI (40.0, 44.0)) correct. These scores are considered against the minimum standard of 50 percent of questions answered correctly, with the non-zero score approaching this level. This data may suggest that the English language remains a barrier for a significant portion of project school pupils, as listening comprehension requires basic vocabulary to understand the passage and answer comprehension questions. Those who are able to understand enough English to perform on the subtest did so quite well.

In further analysis of EGRA results, significant score differences emerged in relation to several key demographic variables including pupil gender, geographic location, household poverty score quartile, time to read at school, and access to reading material at home (see table in Appendix B for further details on score differences). Despite local perceptions that private schools provide higher quality instruction, no trends in significant differences were found on the timed tests. Significant differences only persist across measures of comprehension, with private schools outperforming government schools as indicated by higher mean scores and lower rates of zero scores. Although mean score by age group indicated no statistically significant differences, of-age pupils (ages seven to nine) had lower rates of zero scores than their under-age and over-age counterparts on several subtests. The home language reported by pupils also fueled little significant difference, with English speakers performing better on only a few measures. The majority of pupils reported having eaten before coming to school, with no significant differences found between those who had or had not eaten. Having someone at home who is willing to help with homework was also found to be an insignificant variable on EGRA scores. No cross-

cutting trend exists for having time to read books at school, although it is related to higher scores for a few subtests.

In contrast to these less influential variables, pupil gender was found to be highly significant across all of the timed subtests. As Figure 5 demonstrates, female pupils had higher scores than male pupils on letter name, letter sound, non-word, and oral reading fluency subtests. Despite previously stated limitations to female enrollment, this data suggests that female pupils who attend school are acquiring foundational literacy skills

Figure 5. Mean Scores by Subtest and Gender

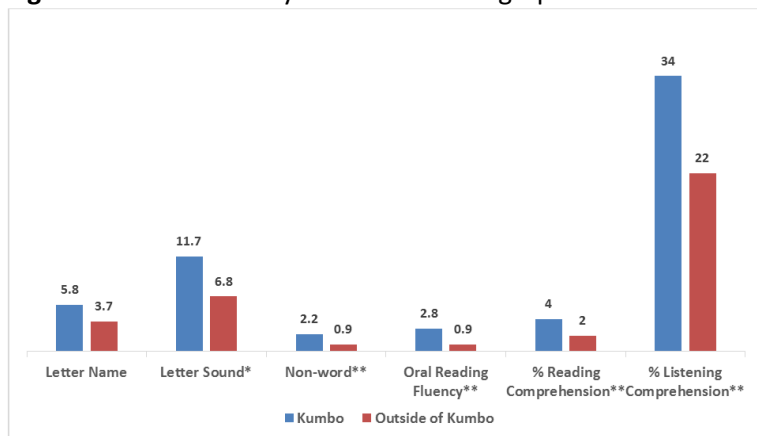


Credit: ALIGN 2016

at a higher rate than their male counterparts. With regards to reading comprehension and listening comprehension, no significant differences exist between genders.

A statistically significant pattern exists across most subtests when considering pupil location in relation to Kumbo subdivision. Kumbo is home to the largest town of Bui division, and tends to have a more peri-urban landscape than the primarily rural remainder of the project area. Baseline data indicates that EGRA scores for most subtests are significantly higher for pupils within Kumbo than those residing in other areas of the division, as shown in Figure 6. Drawing conclusions from this data is complicated, so further analysis is necessary to ascertain the extent to which pupils in Kumbo have several advantageous

Figure 6. Mean Score by Subtest and Geographic Location



Credit: ALIGN 2016

factors in their lives: higher levels of household wealth, English as home language, access to reading materials, etc. As it stands, this data is useful in understanding that pupils outside of Kumbo have more severe needs for literacy interventions, although pupils across Bui division score well below minimum standards.

The most consistent differences in the data set exist between pupils in the wealthiest quartile and all others.

Across all EGRA subtests, both in terms of mean score and percentage of zero scores, pupils in the wealthiest quartile outperformed their peers. Scores for the wealthiest pupils were double those of pupils from other wealth categories on the non-word, oral reading fluency, and reading comprehension subtests. Household poverty score was found to be the single best predictor of performance on the

letter name subtest. For every point increase on household poverty score, correct letters per minute increased by 6.4 percent ($p = 0.0047$). Similar trends existed for other subtests, with this being the strongest relationship.

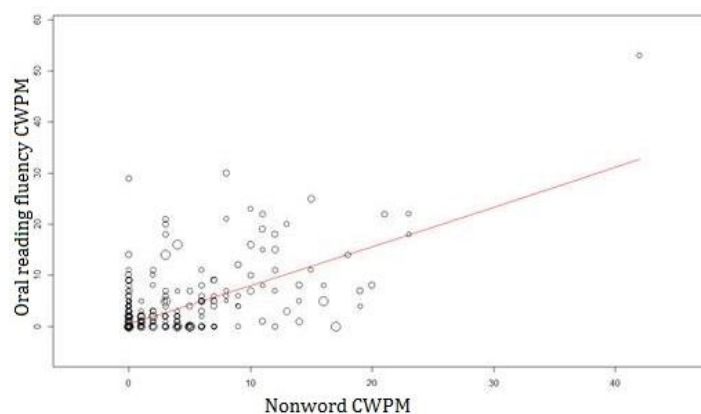
Pupils who reported having time to read books in the classroom or library on a daily basis scored significantly higher on oral reading fluency and reading comprehension than pupils who did not. Although there is not a broader trend around this variable, for these two subtests it is a highly significant variable. Pupils who reported having time to read at school daily were able to read, on average, one more word per minute than their peers, with much lower rates of zero scores. For reading comprehension, this group of pupils had a mean score of two percent correct compared to zero percent for pupils who reported not having time to read daily at school.

Having reading material at home demonstrated positive impacts on all subtests except for listening comprehension. Pupils who reported having reading materials at home had lower rates of zero scores on letter names, non-word, oral reading fluency, and reading comprehension subtests. Mean scores were also significantly higher than pupils without reading material at home for letter sounds, oral reading fluency, and reading comprehension. It is possible that this variable is conflated with household wealth and English home language. The presence of reading materials in the home may also indicate higher levels of parental educational status and emphasis on the value of education within the household.

Several linear regressions were conducted in an effort to better understand the relationships between various subtests. Although pupils were most successful at the letter sound subtest, it is the letter name subtest that is found to be the best predictor for non-word subtest performance. With every increase of one correct letter per minute, there is a 28.6 percent (95% CI (22.8, 34.4)) increase in correct words per minute on the non-word subtest ($p < 0.0001$). An even stronger predictive relationship exists between non-word score and oral reading fluency; for each increase in correct words per minute on the non-words subtest, there is a 76 percent (95% CI (54.1, 97.9)) increase in correct words per minute on the oral reading fluency subtest ($p < 0.0001$). As Figure 7 shows, the relationship between these two tests is highly positive. Both of these subtests require pupils to decode unfamiliar words, as it is unlikely that pupils have a vocabulary so extensive as to include all words from the passage.

In accordance with the available evidence, the baseline data shows that oral reading fluency is a predictor of reading

Figure 7. Relationship between oral reading fluency and CWPM and non-word CWPM



Credit: ALIGN 2016

comprehension. For each additional correct word per minute on oral reading fluency, there is a 5.6 percent increase in reading comprehension scores. This is a logical relationship since being able to read is a necessary precursor for understanding what is read, and literature suggests that increased reading speed yields improved comprehension as well.

The data collected through EGRA during the baseline survey has provide invaluable insight to the ALIGN team. With detailed information regarding the capabilities of pupils across the continuum of literacy skills the program can design responsive educational interventions. The surprisingly low pupil scores on letter name and letter sound subtests indicate ineffective teaching of phonemes, the alphabetic principle, and initial sound and word building skills. This will become a focus area for teacher training, and donated teaching materials will be targeted to meet this learning need. The predictive relationship between performance on the non-word and oral reading fluency subtests, paired with the initial low scores on non-word reading indicate the need for improved decoding instruction. Bolstering teachers' capacity to transfer decoding skills to pupils will be another key priority of teacher training. ALIGN's partnership with Fantastic Phonics is one example of a targeted approach to address letter name and sound recognition as well as decoding ability both through the provision of high quality teaching and learning materials as well as targeted teacher training.

With more than three quarters of pupils unable to read a single word of a passage, it is evident that pupils need to engage more frequently with written text. In addition to literacy instruction training, teachers will also receive training on how best to integrate teaching materials into their lessons to benefit pupil learning. Based on EGRA results and observations, this should include providing pupils more opportunities to have written text in front of them to engage with on an individual basis. Low scores on both reading and listening comprehension indicate a need to bolster pupils' ability to retain written and spoken material in order to demonstrate understanding of material. These practices will also be addressed in teacher training.

Finally, the baseline EGRA results pose concerns regarding the validity of ALIGN's current MGD SO1 indicator definition. The literacy landscape of Bui division appears to be significantly different from that of Liberia, Ghana, and other countries whose EGRA results were considered in the formation of the indicator. ALIGN staff will revisit the literature with baseline results in mind to make any necessary revisions to contextualize the minimum standard scores.

ALIGN made every effort to prevent and mitigate obstacles to administering an effective and accurate baseline EGRA. Still, the team recognizes the limitations that existed during the tool adaptation, data collector training, data collection and data entry. In large part, the EGRA subtests were developed by headquarters staff, with as much input from local staff as possible. Tool adaptation relied upon samples of grade two text collected by ALIGN staff, which may have been too limited in scope to serve as an appropriate grade level measure. The list of local names provided by ALIGN staff may not have been the most appropriate for pupils to engage with through the written and spoken passages, causing unnecessary difficulties during subtest administration. The oral reading fluency and listening comprehension passages may have been less contextually appropriate than those developed by local staff would have been. Local input throughout the adaptation process, including during the week of data

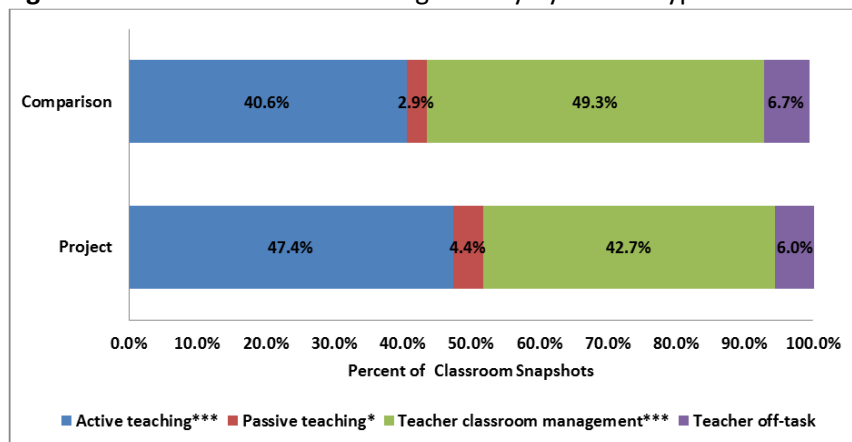
collector training, allowed for significant revision to improve relevance of subtest material but there may have been unmitigated effects.

The training was limited in scope and duration, meaning that some EGRA data collectors were still developing expertise in the tool during the first week of data collection. While team captains provided coaching throughout the process, individual captain capacity with the tool varied and thus so did the quality of feedback provided. Some errors and missing data were discovered by team captains and data entry staff, potentially indicating missing or inaccurate data included in baseline results. Another aspect of the process that may have influenced results is the fact that sampling challenges for comparison schools necessitated that all schools visited during the first week of data collection be project schools. This may account for some of the discrepancies between project and comparison school scores, as the team anticipates a learning curve on the part of data collectors. An important point to acknowledge for drawing future comparisons against baseline EGRA results is that this round of assessments was conducted with third grade pupils a few months into the school year. Therefore, these results are likely an overestimation of pupils' ability at the end of second grade.

MGD 1.1 Percent of teachers engaged in “active instruction” for 50%+ of literacy instruction time

Research on effective classrooms indicates that the best learning takes place when teachers spend at least 50 percent of classroom time on active instruction. Baseline survey results from Stallings show that currently 52 percent (95% CI (46.3, 57.7)) of project school teachers are meeting this active instruction standard. Contrary to expectations of similar teaching practices across the division, this figure is

Figure 8. Time Devoted to Teaching Activity by School Type



Credit: ALIGN 2016

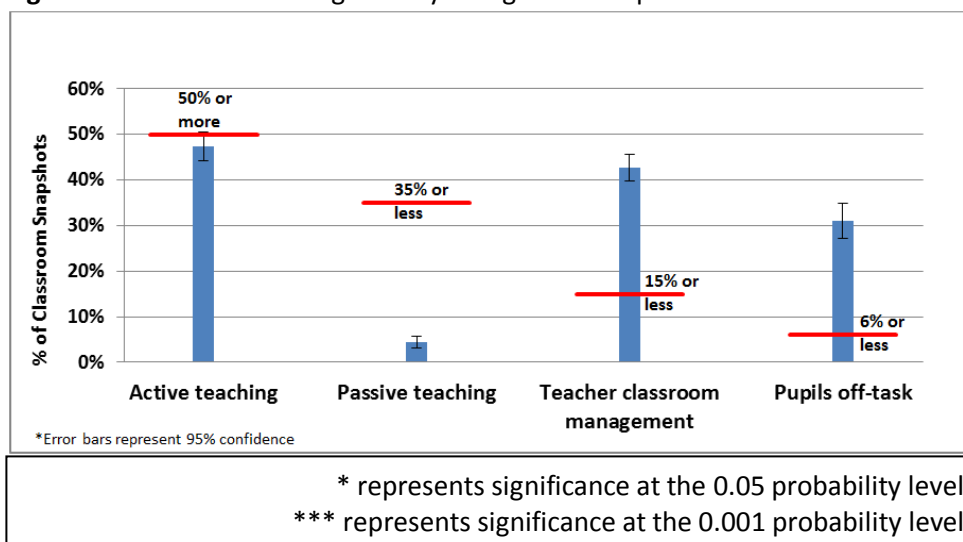
significantly different from comparison schools where 37.3 percent (95% CI (30.7, 43.8)) of teachers achieve the standard ($p=0.0001$). Other notable differences in time usage exist between the school types, such as the overall percent of snapshots spent on activity categories as highlighted in Figure 8. Although classrooms in both types of

schools spent large amounts of time on active teaching and classroom management activities, project schools had significantly higher rates of active teaching while classroom management figures in comparison schools were significantly higher. Passive teaching rates were very low in both types of schools, but this type of activity was observed significantly more in project schools than in comparison. Observations from both types of schools indicate that teachers are off-task around six percent of the time, with no significant differences between school types. Having acknowledged these differences, further results of project school classroom observations are presented below.

Figure 9 demonstrates the breakdown of teacher activities as a percentage of classroom observations. Nearly half of all Stallings observations captured active teaching, consisting of demonstration, discussion, practice and drill, and reading aloud. While this result approaches the standard, and its confidence

interval even overlaps with the U.S. benchmark, there is still work to be done to increase active teaching practices. Baseline results indicate that project school teachers are engaging in very low rates of

Figure 9. Observed Teaching Activity Categories Compared to U.S. Benchmarks

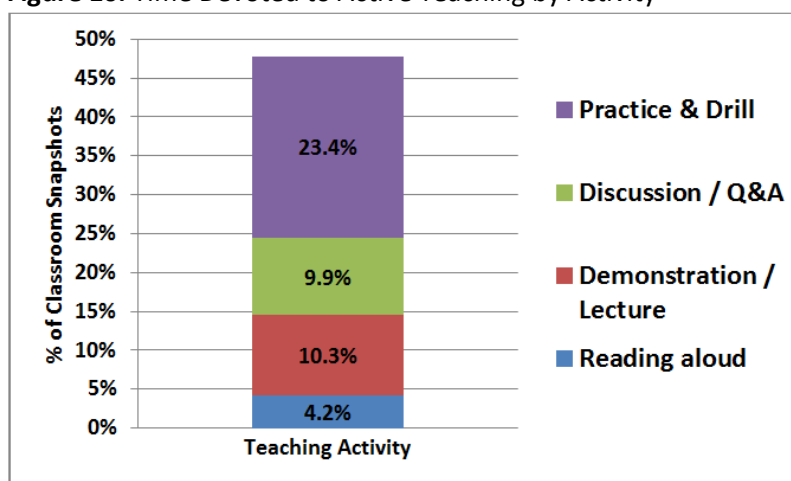


Credit: ALIGN 2016

passive teaching, including activities like copying and seat work. Current practice is well within the standard of 35 percent or less of classroom time spent on these activities. Time spent on classroom management, however, is nearly triple the standard of 15 percent or less. Given the vast differences in educational contexts between Bui division and the U.S., it seems plausible that project school teachers use more class time to plan lessons, grade assignments, and maintain order of large classes. Perhaps in part due to similar contextual factors, the baseline pupil off-task rate of 31.1 percent (95% CI (27.2, 34.9)) far surpasses the recommended standard of 6 percent or less. The high rates of classroom management and pupil off-task found during the baseline resemble patterns of time usage in classrooms in other African nations.

Around half of the 47.4 percent (95% CI (44.3, 50.5)) of classroom time spent engaged in active teaching involved practice and drill activities, as shown in Figure 10. These activities tend to require continuous engagement of pupils in a repetitive activity, often involving few materials. Around 10 percent of classroom time

Figure 10. Time Devoted to Active Teaching by Activity

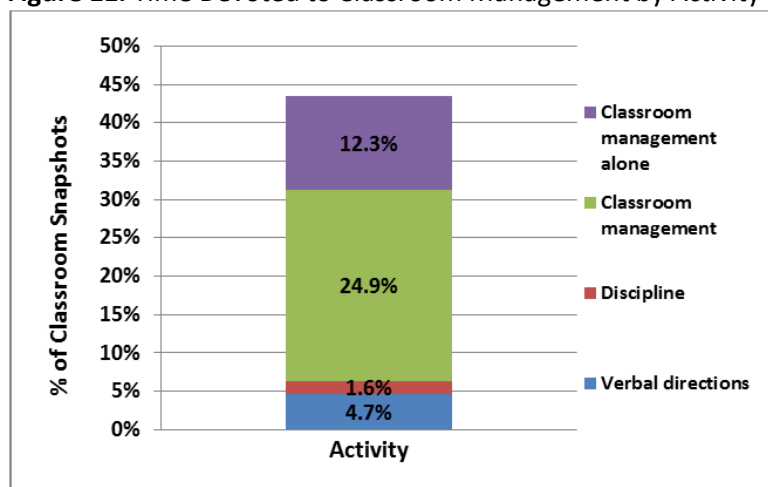


Credit: ALIGN 2016

was spent engaging in discussion or question and answer sessions with pupils, with another 10 percent

attributed to demonstration or lecture lead by the teacher. Reading aloud accounted for a small portion (4.2%, (95% CI (3.3, 5.2))) of classroom observations.

Figure 11. Time Devoted to Classroom Management by Activity



Credit: ALIGN 2016

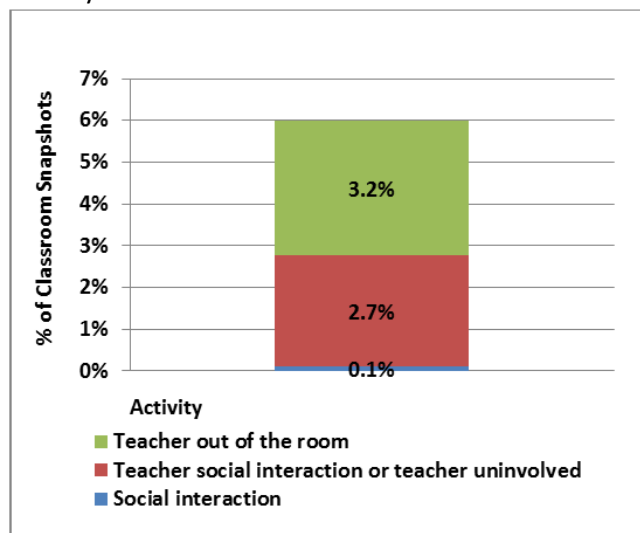
The composite category referring to classroom management includes several different activities, the distribution of which is highlighted in Figure 11. The most common activity in this category is general classroom management that involves pupils, representing 24.9 percent (95% CI (22.4, 27.5)) of all classroom observations. This can include grading assignments, distributing materials, facilitating clapping or songs intended to maintain classroom order, and other similar activities. Teachers

also commonly engaged in classroom management alone, including lesson planning, organizational, and grading activities in which no pupils were involved. Less than five percent of classroom time was spent giving verbal directions to pupils, and only 1.6 percent (95% CI (1.2, 2.1)) of time was utilized to discipline pupils.

None of the demographic variables analyzed were found to significantly influence the extent to which teachers engage in active teaching. Thus it appears that school type and location, grade being observed, teacher gender, contract type, and training level, as well as class size have little impact on the prevalence of this type of teaching activity. Analysis of classroom management activities tells a different story, with observations of grades one through three indicating significantly higher rates of classroom management than observations of grades four through six. Significant differences also emerge when considering whether class enrollment and attendance numbers are higher than the mean class size of 34, which is related to higher rates of classroom management than smaller classes. This indicates that when teachers face larger classes and younger pupils, more of classroom time is consumed by classroom management activities.

Of concern is that six percent of classroom

Figure 12. Time Devoted to Teacher Off-task by Activity

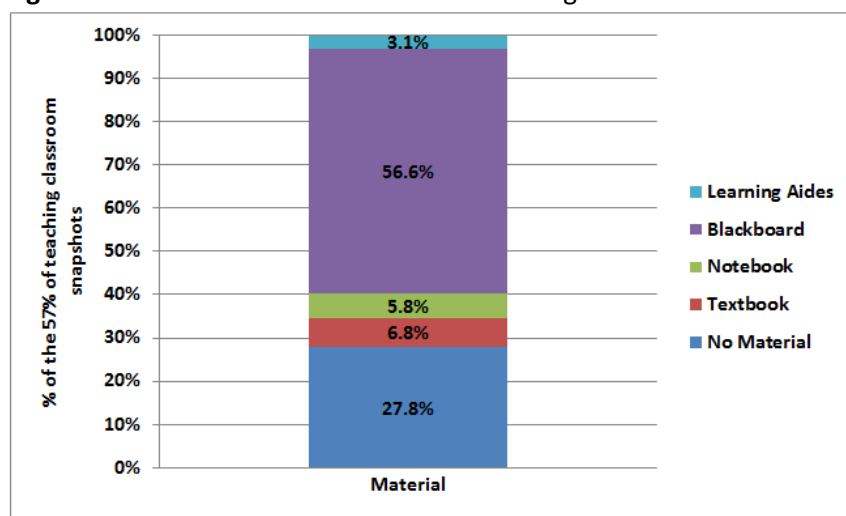


Credit: ALIGN 2016

observations captured teachers engaging in off-task behavior. As Figure 12 demonstrates, half of this time can be attributed to teacher absence from the classroom all together. Another 2.7 percent (95% CI (1.7, 3.6)) of time included social interaction or lack of involvement of the teacher. Taken together, these activities represent a significant loss of instructional time for pupils.

A total of 57 percent of class time involved instruction through active or passing teaching activities. Figure 13 outlines the use of various types of materials during this instructional time. It is worth noting that baseline data indicates that many project schools have limited access to a variety of learning materials: most observations indicated that less than 10 percent of students had textbooks while

Figure 13. Distribution of Materials Used During Instructional Activities



Credit: ALIGN 2016

suggesting that most pupils have notebooks. By far the most prominent material used to facilitate teaching (56.6% of instructional time) is the blackboard, a material which was found in every classroom observed. During more than a quarter of instructional time (27.8%), teachers were observed using no materials. Only 6.8 percent and 5.8 percent of instructional time involved textbooks and notebooks

respectively. Additional learning aides (maps, charts, photos, etc.), which were present in more than half of classrooms, were being utilized in only 3.1 percent of instructional activities observed.

MGD 1.2 Percent of classroom time in which all but ≤5 students are “on-task”

In the interest of measuring student attentiveness, the rates of pupil off-task behavior within Stallings classroom observations were analyzed. Considering the amount of class time in which all but five or fewer pupils were on-task, baseline data indicates that there are no significant differences between project and comparison schools. This on-task standard was satisfied in 68.9 percent (95% CI (65, 72.8)) of observations in project schools, and in 70.2 percent (95% CI (65.6, 74.8)) of observations in comparison schools. Considering the inverse of this, currently around 30 percent of classroom time is spent with more than five pupils being off-task.

Three types of pupil activities are considered off-task: social interaction, pupil(s) uninvolved, and discipline. In any given classroom, several different types of off-task behavior may be observed simultaneously. Figure 14 shows off-task behavior separated by activity. In 23.3 percent (95% CI (19.8,

26.9)) of classroom observations, at least one pupil was classified as being uninvolved in learning. Social interaction among pupils was observed in 18.0 percent (95% CI (14.9, 21.1)) of recorded snapshots.

Through regression analysis, several classroom factors were found to be statistically significantly related to rates of pupil off-task behavior. Active teaching activities, most notably reading aloud and discussion or question and answer were found to reduce rates of pupils off-task. As Figure 15 outlines, a ten percentage point increase in active teaching is associated with a 3.4 percent reduction in pupil off-task behavior. Reading aloud and

discussion/question and answer – components of active teaching – have a similar impact. On the other end of the spectrum, classroom management and being uninvolved or out of the room are associated with higher rates of pupils off-task. A ten percentage point increase in teacher out of the room or uninvolved is related to a 5 percent increase in pupils off-task. A ten percentage point increase in classroom management is associated with a 3.1 percent increase in pupils off-task, although it is unclear if classroom management is a cause or response to the off-task behavior.

Significant differences in pupil off-task behavior were also associated with several classroom demographic factors. Early grades (1-3) had significantly higher rates of off-task pupils than did later grades (4-6). Although most teachers are female, baseline data

indicates that in classrooms headed by female teachers, rates of off-task pupils are significantly higher (34.9% (95% CI (30.5,39.4))) than in those with male teachers (24.7% (95% CI (20.0, 29.4))) (p=0.0003). Unsurprisingly, class size has also been proven as a significant factor, with classes with over 34 pupils enrolled and attending on the day of observation experiencing much higher rates of pupil off-task behavior (around 38%, (95% CI (31.4, 44.3)) compared to around 26% (95% CI (22.5, 30.0)), p=0.0024).

The classroom observations completed during the baseline survey provided a plethora of insights that will guide ALIGN program design. Data has clarified the reality in project schools, urging ALIGN to

Figure 14. Pupil Off-Task by Activity

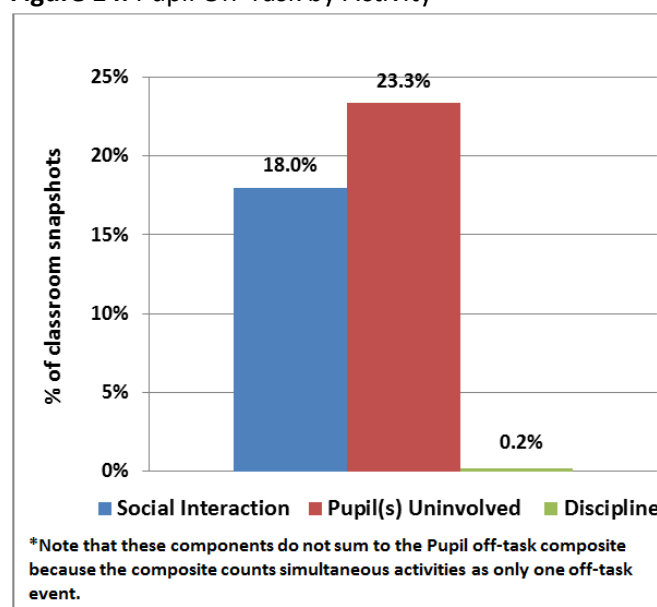


Figure 15. Predictors of Pupil Off-task Behavior	Coefficient	p-value
Active Teaching	-0.034	<0.0001
Reading Aloud	-0.044	0.0013
Discussion / Q&A	-0.034	0.0127
Classroom Management	0.031	0.0002
Teacher uninvolved/Out of room	0.050	0.0005

Credit: ALIGN 2016

reconsider existing assumptions and respond to evident needs. For example, a key assumption of the program is that trained teachers are more effective at influencing literacy outcomes of pupils. Observed teachers spanned the training continuum from no training to full certification, yet training status was found to be an insignificant variable in predicting teaching practices and rates of off-task pupils. This suggests that training alone is not sufficient to change classroom practices and subsequent learning outcomes. As ALIGN moves forward with planning teacher training packages, more attention will be given to school contexts to ensure that trainings target contextually relevant and feasible practices.

While the data suggests that many teachers are engaging in appropriate levels of active teaching activities, ALIGN will continue to encourage utilization of high quality, engaging instructional activities. Anecdotal evidence from data collectors and team captains contextualizes the prevalent use of practice and drill by explaining it as an activity which frequently consists of pupils simply repeating after the teacher. This does not seem to be the most effective teaching activity possible, especially with literacy outcomes in mind. This activity also was not significantly associated with pupil off-task behavior, suggesting that it is not as effective at other active teaching activities in engaging pupils.

In light of the baseline findings, classroom management will certainly feature as a prominent component of ALIGN teacher training. Special attention will be paid to managing large class sizes and dealing with pupil off-task behavior, since those were identified in the data as relevant factors. Recognizing that classroom management levels in Bui division may never meet the U.S. standard of 15 percent or less of classroom time, reducing its share of classroom time is an important step in maximizing learning opportunities for pupils.

Baseline results also indicate that many schools lack access to critical teaching materials like textbooks. A further concern is that even where materials like posters and other visual aids are present, teachers rarely make use of them in the classroom. Heavy teacher reliance on the blackboards as a teaching material in the context of dimly lit, often crowded, classrooms means that much of what is written on the blackboard is illegible to significant portions of the class. With these points in mind, ALIGN will target material integration training on how to develop new learning aids as well as how to best utilize those already available.

Although not captured directly in the baseline data, data collectors frequently noted a situation where a school lacked a sufficient number of teachers. In these circumstances, one teacher tended to be responsible for two grades, either combining them in one classroom or switching back and forth between two separate rooms. While the ALIGN program is not in a position to directly increase the number of teachers at each school, this issue will be raised in community engagement activities to bolster PTA support for the hiring of additional teachers as well as advocacy efforts with the Ministry of Basic Education to promote the provision of more governmental support.

In making use of this valuable information regarding classroom practices of teachers and pupils, it is important to consider the limitations of the data from which it originates. The Stallings tool was well-adapted to the local project context; however it remains a very complex form. ALIGN staff completed the adaptation and training internally, leaving room for the possibility that the tool was operationalized

in different ways than originally designed or implemented elsewhere. Data collectors received only one day of training and two days of practice with the tool, leaving room for uncertainty and errors at the beginning of data collection. In fact, occasional coding errors were identified by team captains in the field and by staff during the data entry process. Due to difficulties with the sampling process, project schools were visited during the first few weeks of data collection, with comparison schools comprising most of the final weeks of data collection. The learning curve of data collectors with this complicated tool could account for some of the differences observed across school types. No formal assessments of inter-rater reliability were conducted, meaning that some inconsistencies in coding could exist across data collectors.

The potential Hawthorne effect of this data collection method must also be acknowledged. The ALIGN team expects that observed behavior is influenced by the presence of the data collector and probably represents the best possible scenario rather than an accurate representation of everyday classroom interactions. Additionally, this tool captures only a few broad activity categories without providing information about the quality of instruction or fidelity to curriculum. The data presented here focuses predominantly on teacher activities, perhaps underestimating the amount of time pupils engaged in learning activities. For instance, some pupils may have been engaged in passive learning activities while teachers were engaged in classroom management or off-task behaviors. Even taking these limitations into consideration, the Stallings baseline results provide essential inputs for the design of teacher training and material provision of the ALIGN program.

MGD SO2: Percent of children receiving a minimum acceptable diet

According to USDA's guidelines, 69.1 percent (95% CI (65.4, 72.8)) of primary age pupils consume a *minimum acceptable diet* defined as consuming at least four of seven food groups and at least three consumption

Figure 16. Proportion of Pupils consuming a Minimum Acceptable Diet

	Project	95% CI	Comparison	95% CI
Pupils with "Minimum Acceptable Diet"	69.1%	(65.4, 72.8)	69.3%	(65.7, 73.0)
Female (n=382)	71.4%	(66.3, 76.4)	69.4%	(63.9, 74.8)
Male (n=413)	67.1%	(62.5, 71.8)	69.1%	(64.8, 73.4)

Credit: ALIGN 2016

periods a day.²⁰ There is no significant difference in consumption between the project schools and comparison schools, males and females, class level, wealth status, or household participation in agriculture. Overall, these pupils consume relatively diverse diets likely in line with nutrient intake

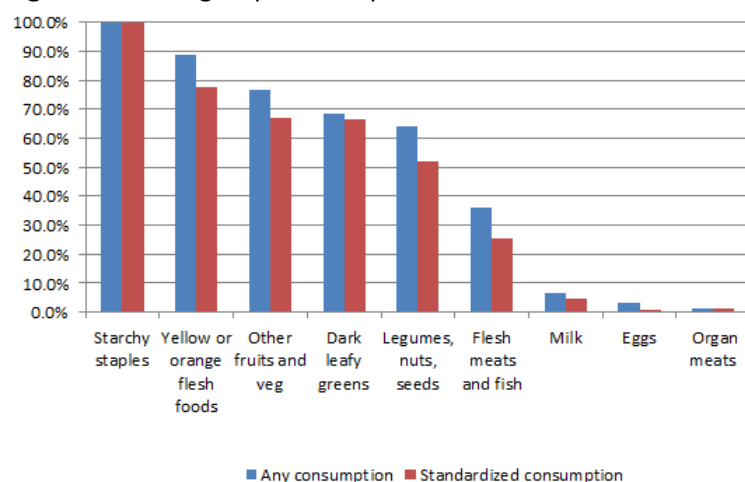
²⁰ MGD Standard indicator 23 "*Minimum dietary diversity* for children is defined as four or more food groups out of the following seven food groups: Grains, roots and tubers, Legumes and nuts, Dairy products (milk, yogurt, cheese), Flesh foods (meat, fish, poultry and liver/organ meats), Eggs, Vitamin-A enriched foods, including vegetable oil, fruits and vegetables, Other fruits and vegetables and *Minimum meal frequency* for children is defined as three or more feedings of solid, semi-solid or soft food per day."

needed for their growth. On average, pupils who identified their consumption as *normal*²¹ eat from four and a half food groups daily. Prevalence of abnormal consumption is less than six percent (95% CI (3.7, 7.6)), suggesting that the diets recorded in the ALIGN baseline were representative of a typical day. Further, the students who were

interviewed following the weekend did not show any practical difference in consumption between weekends and weekdays, suggesting school attendance likely does not conflict with proper nutrition.

Mean consumption occurrences in Figure 17 suggest that students eat on average three times a day, and may also consume a snack. From school observations, some students brought food from home, others purchased food on the way or while at school, while others waited to eat until after they returned home. A few students reported they typically do not eat before school. While there is no international standard for children's consumption occurrences for this age group, they are growing and developing still. A consumption pattern that allows for consistent food intake may be ideal for attention

Figure 18. Food group consumption



Credit: ALIGN 2016

the animal materials: fish and meat, eggs, and milk products. Nearly 41 percent of the population consumed from at least one of the animal product categories, with the majority in flesh meats and fish.

²¹ At the end of the interview, data collectors asked the pupils if the 24-hour recall recorded a typical day's consumption. Pupils compared their intake by volume, number of times and quantity eaten. The abnormalities identified were both above and below the recorded amounts, but only 5.6% of the pupils identified their dietary intake from the previous day as abnormal.

Figure 17. Mean food groups and consumption occurrences

	Mean	95% CI	Comparison	95% CI
Food groups consumed	4.5	(4.4, 4.5)	4.5	(4.4, 4.6)
Pupils with normal	4.5	(4.4, 4.5)	4.5	(4.4, 4.6)
Pupils with abnormal	4.2	(3.8, 4.5)	4.5	(4.1, 4.9)
Female (n=382)	4.5	(4.4, 4.6)	4.5	(4.4, 4.6)
Male (n=413)	4.4	(4.3, 4.5)	4.5	(4.4, 4.6)
Consumption Occurrences	3.3	(3.2, 3.4)	3.2	(3.1, 3.3)
Normal Days (n=732)	3.3	(3.2, 3.4)	3.2	(3.1, 3.3)
Abnormal Days (n=48)	3.0	(2.6, 3.3)	3.0	(2.5, 3.5)
Weekends (Mon)	3.2	(2.8, 3.6)	3.1	(3.0, 3.2)
Weekdays (Tue-Fri)	3.3	(3.2, 3.4)	3.3	(3.1, 3.4)

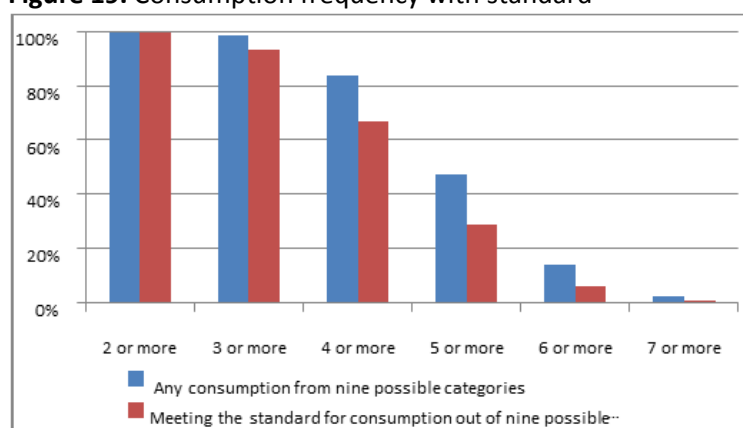
Credit: ALIGN 2016

This also suggests that some households consume more than one animal product daily, since the frequency of consumption of animal products does not match the total products consumed.

According to FAO²², this dietary diversity score likely results in broad and acceptable micronutrient content in the diet. However, this analysis can be skewed based on no minimum quantity standard for inclusion in the

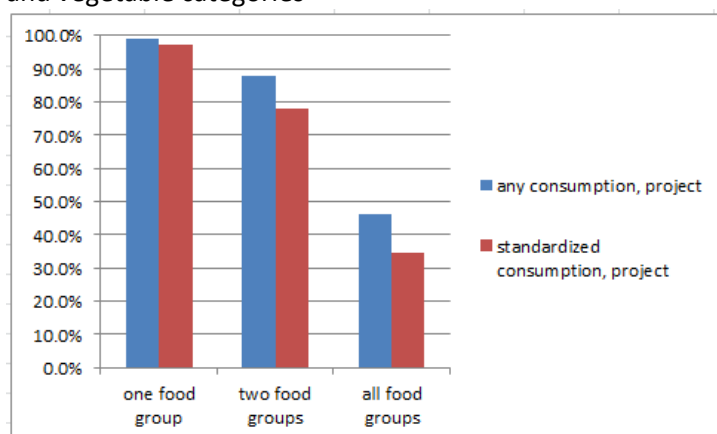
analysis. The ALIGN program created a minimum standard²³ for each food group, largely based on serving sizes according to the US dietary guidelines²⁴ to analyze dietary patterns further. This extended analysis found a slight reduction in food group consumption overall, with a mean consumption of 3.9 (95% CI (3.9, 4.0)) food groups. Across the most common groups, there is little change, suggesting adequate portion sizes, especially for non-staples. Animal product consumption decreased, as it is common to have a few small pieces of meat or fish with the meal, rather than the US-standard 3 oz. serving.

Figure 19. Consumption frequency with standard



Credit: ALIGN 2016

Figure 20. Consumption frequency among the three fruit and vegetable categories



Credit: ALIGN 2016

A macronutrient analysis is more difficult based on the diversity score, however, from observation, meals are based around a starchy staple, accompanying food is often cooked with peanut or palm oil, and protein intake is regular through a number of sources, including shrimp seasoning, dried fish, beans and seeds. Pupils frequently ate the same foods during multiple meals in the day. The data collection team encountered similar ingredients prepared in the same way across the population. While foods intake varies

little among the population, the pupils' diets likely provide ample micronutrients because of the quantity, frequency, and diversity of consumption within the food groups.

²² Kennedy G, Ballard T and Dop M. 2010. Guidelines for Measuring Household and Individual Dietary Diversity. Nutrition and Consumer Protection Division, Food and Agriculture Organization of the United Nations. <http://www.fao.org/docrep/014/i1983e/i1983e00.pdf>. Downloaded 1/11/2016.

²³ Appendix C

²⁴ <http://www.choosemyplate.gov/>

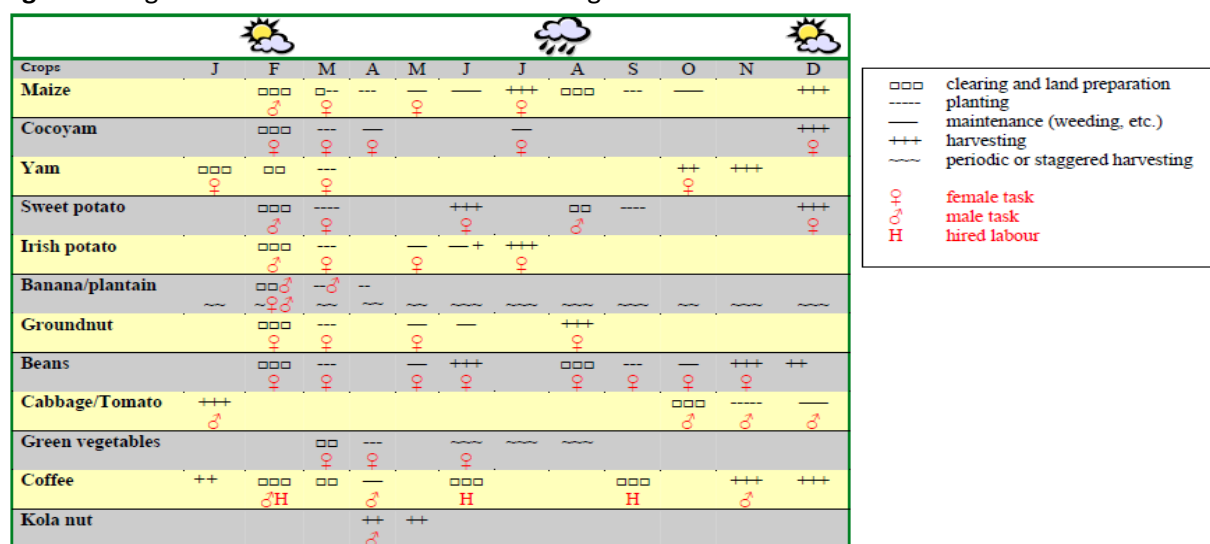
Additionally, 87.7 percent (95% CI (85.4, 90.1)) of pupils consumed from at least two of the fruit and vegetable groups, and almost half consumed food from all three different categories, shown in Figure 20. While the pupils' diets do not compare to western-style diversity based on cultural and market availability, they do provide adequate diversity across food groups.

These findings are encouraging for the ALIGN program, as pupils are primarily consuming a diet that is healthy and appropriate for their age group. The nutrition team will reinforce the current nutrition principles to achieve the SO2 goals, and provide information that could combat the global trend towards overweightness and obesity in other developing nations. The ALIGN program has finite resources; focusing the time, energy, and funding towards the trailing areas of the project will contribute to the goals ALIGN has set out for health, agricultural development, and literacy.

The final component of this analysis is a discussion on the limitations and caveats that could influence the use of this information. One major limitation is the timing of the data collection. The ALIGN baseline study in November measured dietary diversity at its peak, during a post- and ongoing harvest period.

The northwest region of Cameroon has two major harvests as well as vegetable and fruit tree production throughout the year. However, prices for staples and other foods can change throughout the year. While the current measurement of dietary diversity is high, it is possible that at other points in the year diets could be significantly different due to prices and availability of food on the markets. Figure 21 shows the unimodal rains occurring from March to November and households with typically two crop cycles and a brief fallow period.

Figure 21. Agricultural calendar for Northwest Region



Credit: Degrande et al., 2007

According to the World AgroForestry Center²⁵ the period of greatest food insecurity occurs from March to April, when food from the previous harvest has been consumed, incomes are low from agricultural activities, and harvests are not ready yet. Food preservation techniques are reportedly poor, resulting in loss of stored goods, or rapid consumption. ALIGN will encourage and teach food preservation techniques so healthy food can be accessed year round.

Another limitation on the dietary diversity analysis is the assumption that all food groups are equal in their contribution to the required nutrients for children's health and development. The score does not directly reflect quality, but assumes a better score incorporates the more nutrient dense groups. This is one of the weaknesses of this quick measurement in that there is no distinction for fruit and vegetables, animal product, and legume intake, which provide the majority of vitamins and minerals, compared to consumption of white, starchy foods, which often provides the majority of calories. This weakness was anticipated and the ALIGN program introduced both a secondary analysis, found in Figures 18 through 20, to determine if pupils consumed a substantial amount to represent needed nutrients, and broadened the categories of fruit and vegetable intake to reflect the needed nutrients for primary age children. The results are included in this analysis.

The final caveat includes a mention of the language and process of interviews. For the youngest participants, grades one and two, their native language was most useful for communication, especially regarding food names and behaviors such as eating. Some pupils very readily recalled their diets and others required prompting of food groups or typical consumption for the morning afternoon and evening. Memory lapse was not a common problem among this population, except for the youngest participants. Some data collection teams used an assistant from the schools to communicate with these pupils, which required information to be interpreted by two people.

MGD 1.1.1 Number of teachers regularly (90%+) reporting to USDA supported classrooms/schools

In order for learning to take place, teachers need to be present in the classroom. Baseline estimates indicate only 58.4 percent of project school teachers are reporting to school at least 90 percent of the time. This figure is quite concerning, as consistent learning requires consistent teaching. ALIGN will work to improve teacher attendance on several fronts: standardizing teacher attendance record keeping practices, training PTA members to monitor teacher attendance, sensitizing teachers and community members on the importance of regular teacher attendance, and incentivizing exceptional attendance with teacher take-home rations. Currently the tracking of teacher attendance varies by school, with most schools utilizing some type of sign-in sheet and keeping aggregated attendance rates. While the available data on teacher attendance is insufficient, it is clear that this is a necessary area of intervention to improve literacy outcomes of pupils.

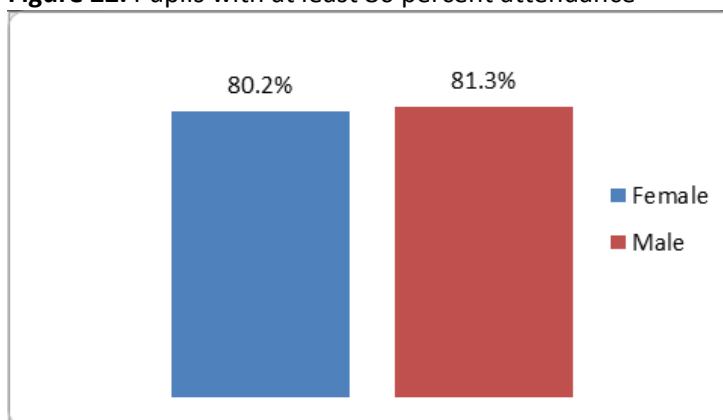
²⁵ Degrande A, Schreckenberg K, Mboosso C and Mfoumou C. 2007. Farmer Livelihoods in the Humid Forest and Moist Savannah zones of Cameroon. Working Paper nr 47 . Yaoundé, ICRAF-WCA/HT. 61p

MGD 1.3 Number of students regularly attending (80%+) USDA supported classrooms/schools

In order for children to develop the literacy skills, regular school attendance (at least 80%) is essential. An estimated 13,164 of pupils in project schools are meeting the attendance standard; this represents 80.8 percent of all enrolled pupils. Female pupils comprise 6,266 of those attending at least 80 percent of the time, while 6,898 are male pupils. These figures represent 80.2 percent and 81.3 percent of total enrollment, as demonstrated in Figure 22.

Overall this data indicates relatively high rates of attendance and limited gender disparity. In light of this data and with the multiple program goals in mind, efforts to improve attendance will be limited to community sensitizations and incentivizing attendance with take-home rations. The quality of this discussion is limited by the aggregated attendance records kept by project schools. At this point in time, none of the schools calculate individualized pupil attendance records.

Figure 22. Pupils with at least 80 percent attendance

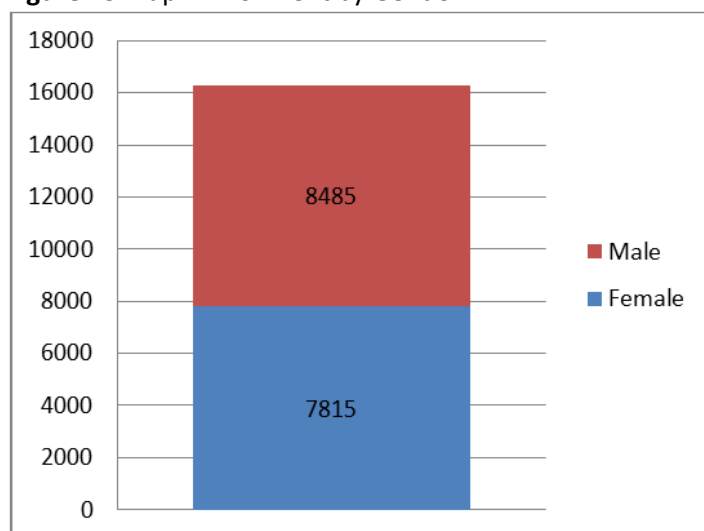


Credit: ALIGN 2016

MGD 1.3.4: Number of students enrolled in school receiving USDA assistance

Enrollment in school is a prerequisite to learning. Based on records from project schools, there are 16,300 pupils enrolled in the 92 schools receiving USDA assistance. As shown in Figure 23, of total enrollment, 7,815 pupils are female and 8,485 are male.

Figure 23. Pupil Enrollment by Gender



Credit: ALIGN 2016

This data proves useful in understanding the necessary scope of educational activities. In addition to providing the total number of pupils enrolled in ALIGN schools, the data also indicates that less than half (47.9%) of pupils are female. With this in mind, community sensitization campaigns will target increased enrollment of all out of school children with an emphasis on girls. This data may also indicate that retention of female pupils requires additional attention. Efforts will be made to leverage take-home rations as an

incentive for female enrollment and attendance at school. It is worth noting that this enrollment data is viewed as an estimation, as field visits demonstrated that many schools have incomplete records.

MGD 2.4: Number of schools using an improved water source and improved sanitation facilities

Out of 92 schools, 71.1 percent have an improved water source and 91.3 percent have improved sanitation facilities on the primary school campus. However, five of the 66 schools with improved water sources are experiencing access problems due to broken or blocked equipment and seasonal dryness. Observations during the school day revealed improved sanitation facilities are not frequently used due to several possible reasons: negative perception of cleanliness, ease, and possible restrictions (locked doors) placed on students' use. Students most often used an open-aired pit latrine or the area behind the classrooms. While some schools provided water cans, there was often no soap available to properly wash hands.

MGD 2.5: Number of students receiving deworming medication

Approximately 17,031 pupils at ALIGN's 92 project schools received deworming medication during the 2014-15 school year, which represent 85.4 percent of December 2015 pupil enrollment. The deworming partnership between the local Ministries of Health and Education appears strong, as 87 out of 92 (94.6%) indicated they received medication tablets. However, 26 out of those 87 schools could not produce deworming records for ALIGN's data collectors.

This result is limited by how it was derived. Due to missing deworming records, it was necessary to estimate figures at 26 schools (pupils were assumed to have been dewormed at the same proportion of enrollment as the 66 schools which did possess data).

Parasitic infections have long served as an unseen barrier to development in Bui division, contributing to poor health outcomes and school attendance. Schistosomiasis and soil-transmitted helminthes (STH) have been a particularly widespread scourge. A 2011 parasitological survey of fifth- and six-graders determined the prevalence of schistosomiasis to be up to 12.2 percent within Bui division, while prevalence of STH was up to 40.0 percent.²⁶ Based on these figures, World Health Organization guidelines state that schistosomiasis treatment should be distributed to school-age children once every two years, while STH treatment should be administered once per year.²⁷ Empirical data and key informant interviews suggest that Bui division authorities are largely following these guidelines. In the case of schistosomiasis, they may even be administering treatment more often than necessary.

In light of this baseline data, ALIGN's approach to MGD 2.5 will not change. ALIGN will play a secondary role, encouraging local Ministries of Health and Education to work together to provide deworming

²⁶ Tchuem Tchuente et al.: Mapping of schistosomiasis and soil-transmitted helminthiasis in the regions of Littoral, North-West, South, and South-West Cameroon and recommendations for treatment. BMC Infectious Diseases 2013 13:602. Also, discussions with Prof. Tchuente about unpublished data on Bui division.

²⁷ See USDA MGD Standard Indicator 21 definition.

treatment to project schools. ALIGN will also encourage and facilitate stronger monitoring of deworming treatment distribution at schools.

Other Indicators

Indicators not mentioned above were not investigated during the baseline survey. They have a baseline figure of zero, as they are dependent upon USDA interventions. An exception is Custom Indicator 6, measuring output MGD 1.3.2: *Number of student absences from USDA supported classrooms/schools due to personal health reasons*. It has a baseline figure of “Unknown”. It is not currently tracked by schools. ALIGN determined that obtaining a snapshot measure of it during the baseline survey in November 2015 would be misleading, as it is known to vary depending on the season.

A baseline figure for Custom Indicator 9, measuring outcome MGD 2.1: *Percent of school-age children observed correctly washing their hands*, will be collected separately by April 2016, before implementation of hygiene-specific activities begin. Its baseline figure will be included in the semi-annual report to USDA, submitted in May 2016. Anecdotal evidence suggests the baseline figure will be very low, as very few schools possess soap, a necessary component of correct handwashing.

APPENDIX A

Result Number	Indicator Number	Title in Results Framework	Performance Indicator	Baseline as of Nov-Dec 2015	Notes
MGD SO1	MGD Standard 24	Improved literacy of school-aged children	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	Total: 0.0% Female: 0.0% Male: 0.0%	Letter Names: 0.5% met benchmark Letter Sounds: 6.9% met benchmark Nonword Fluency: 4.4% met benchmark Reading Fluency: 0.1% met benchmark Reading Comprehension: 0.9% met benchmark Listening Comprehension: 20.4% met benchmark See baseline report narrative for detailed explanation of literacy scores.
MGD SO1	MGD Standard 25	Improved literacy of school-aged children	Number of individuals benefiting <u>directly</u> from USDA-funded interventions	0	Figure is zero until project begins.
MGD SO1	MGD Standard 26	Improved literacy of school-aged children	Number of individuals benefiting <u>indirectly</u> from USDA-funded interventions	0	Figure is zero until project begins.
MGD 1.1	Custom 1	Improved quality of literacy instruction	Percent of teachers engaged in “active instruction” for 50%+ of literacy instruction time	52.0%	See baseline report narrative for detailed explanation of teaching activities and classroom observations.
MGD 1.1.1	Custom 2	More consistent teacher attendance	Percent of teachers regularly (90%+) reporting to USDA supported classrooms/schools	58.4%	Overall teacher attendance is 89.8%. The 58.4% figure is estimated, as no schools keep data in a manner that allowed ALIGN to calculate according to the indicator definition. 4 out of 92 schools kept badly incomplete data, and they are not included in the calculation.
MGD 1.1.2	MGD Standard 2	Better access to school supplies and materials	Number of textbooks and other teaching and learning materials provided as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.1.3	Custom 3	Improved literacy instruction materials	Number of school libraries established or improved as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.1.4	MGD Standard 5	Improved skill and knowledge among teachers	Number of teachers who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.1.4	MGD Standard 6	Improved skill and knowledge among teachers	Number of teachers trained or certified as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.1.5	MGD Standard 3	Increased skill and knowledge among school administrators	Number of school administrators who demonstrate use of new techniques or tools as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.1.5	MGD Standard 4	Increased skill and knowledge among school administrators	Number of school administrators and officials trained or certified as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.2	Custom 4	Improved student attentiveness	Percent of classroom time in which all but ≤5 students are “on-task”	68.9%	See baseline report narrative for detailed explanation of pupil activities.
MGD 1.2.1 / MGD 1.2.1.1	MGD Standard 15	Reduced short-term hunger / Increased access to food	Number of daily school meals (lunch) provided to school-age children as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.2.1 / MGD 1.2.1.1	MGD Standard 16	Reduced short-term hunger / Increased access to food	Number of school-aged children receiving school meals (lunch) as a result of USDA assistance	0	Figure is zero until project begins.
MGD 1.2.1 / MGD 1.2.1.1	MGD Standard 17	Reduced short-term hunger / Increased access to food	Number of social assistance beneficiaries participating in productive safety nets as a result of	0	Figure is zero until project begins.
1.2.2	Custom 5	Increased extracurricular activities	Number of schools organizing after-school literacy activities as a result of USDA assistance	0	Figure is zero until project begins.

Result Number	Indicator Number	Title in Results Framework	Performance Indicator	Baseline as of Nov-Dec 2015	Notes
1.3	MGD Standard 1	Improved student attendance	Number of students regularly (80%+) attending USDA supported classrooms/schools	Total: 13,164 Female: 6,266 Male: 6,898	Percentage attendance: Total:88.1% Female: 87.6% Male: 88.5% Figures are estimated, as no schools keep data in a manner that allowed ALIGN to calculate according to the indicator definition. 11 out of 92 schools kept badly incomplete data, and they are not included in the calculation.
1.3.1	MGD Standard 13	Increased economic and cultural incentives (or decreased disincentives)	Number of take-home rations provided as a result of USDA assistance	0	Figure is zero until project begins.
1.3.1	MGD Standard 14	Increased economic and cultural incentives (or decreased disincentives)	Number of individuals receiving take-home rations as a result of USDA assistance	0	Figure is zero until project begins.
1.3.2	Custom 6	Reduced health-related absences	Number of student absences from USDA supported classrooms/schools due to personal health reasons	Unknown	Data is not kept by schools. ALIGN will implement a collection system when activities begin.
1.3.3	MGD Standard 7	Improved school infrastructure	Number of facilities (classrooms, kitchen, commodity storage) rehabilitated/constructed as a result of	0	Figure is zero until project begins.
1.3.4	MGD Standard 8	Increased student enrollment	Number of students enrolled in school receiving USDA assistance	Total: 16,300 Female: 7,815 Male: 8,485	Enrollment as of December 2015. School year began on September 7, 2015.
1.3.5	Custom 7	Increased community understanding of benefits of education	Number of information sessions regarding education benefits held as a result of USDA assistance	0	Figure is zero until project begins.
1.4.1 / 2.7.1	Custom 8	Increased capacity of government institutions	Number of government civil servants trained in institutional capacity building topics as a result of USDA assistance	0	Figure is zero until project begins.
1.4.2	MGD Standard 12	Improved policy and regulatory framework	Number of educational policies, regulations and/or administrative procedures in each of the following stages of development as a result of USDA assistance: Stage 1: Analyzed Stage 2: Drafted and presented for public/stakeholder consultation Stage 3: Presented for legislation/decreed Stage 4: Passed/Approved Stage 5: Passed for which implementation has begun	0	Figure is zero until project begins.
1.4.3 / 1.4.4 / 2.7.3 / 2.7.4	MGD Standard 11	Increased government support	Value of new public and private sector investments leveraged as a result of USDA assistance	0	Figure is zero until project begins.
1.4.4 / 2.7.4	MGD Standard 9	Increased engagement of local organizations and community groups	Number of Parent-Teacher Associations or similar school governance structures supported as a result of USDA assistance	0	Figure is zero until project begins.
1.4.4 / 2.7.4	MGD Standard 10	Increased engagement of local organizations and community groups	Number of public-private partnerships formed as a result of USDA assistance	0	Figure is zero until project begins.
SO2	MGD Standard 23	Increased use of health and dietary practices	Percent of school-aged children receiving a minimum acceptable diet	Total: 69.1% Female: 71.4% Male: 67.1%	See baseline report narrative for detailed explanation of these figures.
2.1	Custom 9	Improved knowledge of health and hygiene practices	Percent of school-age children observed correctly washing their hands	Unknown	TBD by April 2016, before hygiene interventions begin. The figure is likely to be low.
2.1	Custom 10 (this figure also included in MGD Standard #18)	Improved knowledge of health and hygiene practices	Number of individuals trained in hygiene as a result of USDA assistance (this figure also included in MGD Standard #18)	0	Figure is zero until project begins.

Result Number	Indicator Number	Title in Results Framework	Performance Indicator	Baseline as of Nov-Dec 2015	Notes
2.2	Custom 11 (this figure also included in MGD Standard #18)	Increased knowledge of safe food prep and storage practices	Number of individuals trained in safe food preparation and food storage as a result of USDA assistance (this figure also included in MGD Standard #18)	0	Figure is zero until project begins.
2.3	MGD Standard 18	Increased knowledge of good nutrition practices	Number of people trained in child health and nutrition as a result of USDA assistance	0	Figure is zero until project begins.
2.4	MGD Standard 19	Increased access to clean water and sanitation services	Number of schools using an improved water source	66	Though 66 water sources exist, some of them are in various state of disrepair.
2.4	MGD Standard 20	Increased access to clean water and sanitation services	Number of schools with improved sanitation facilities	84	Though 84 sanitation facilities exist, some of them are in various state of disrepair.
2.5	MGD Standard 21	Increased access to preventative health interventions	Number of students receiving deworming medication	17,031	Figure is estimated, as 26 out of 92 school did not possess data. Missing data was approximated using existing data from other schools.
2.6	Custom 12	Increased access to requisite food prep and storage tools and equipment	Number of schools receiving adequate food prep and storage equipment as a result of USDA assistance	0	Figure is zero until project begins.
2.7.2	MGD Standard 22	Improved policy and regulatory framework	Number of child health and nutrition policies, regulations and/or administrative procedures in each of the following stages of development as a result of USDA assistance: Stage 1: Analyzed Stage 2: Drafted and presented for public/stakeholder consultation Stage 3: Presented for legislation/decreed Stage 4: Passed/Approved Stage 5: Passed for which implementation has begun	0	Figure is zero until project begins.

Appendix B

	Letter Name		Letter Sound		Non-word		Oral Reading Fluency		Reading Comprehension		Listening Comprehension	
	Mean CLPM	% Zero Score	Mean CSPM	% Zero Score	Mean CWPM	% Zero Score	Mean CWPM	% Zero Score	Mean % Correct	% Zero Score	Mean % Correct	% Zero Score
School Type												
Government	3.7	56.0%	7.0	31.0%	1.0	82.5%	0.8**	80.6%	0%**	96.2%***	18%***	51.1%***
Private	5.2	49.4%	9.9	27.8%	1.7	74.0%	2.2**	69.7%	2%**	88.3%***	34%***	27.2%***
Gender												
Female	5.2**	49.9%	10.0***	23.6%***	1.6*	76.1%	1.7*	71.6%**	2%	92.8%	26%	38.7%
Male	3.5**	56.2%	6.5***	35.7%***	1.0*	81.4%	1.1*	80.1%**	2%	92.5%	24%	42.4%
Age												
In age (7-9 years)	5.1	47.8%*	9.8	23.5%**	1.5	76.9%	1.7	71.2%*	2%	91.1%	28%	34.3%
Out of age	5.0	57.7%*	8.6	35.7%**	1.7	73.6%	1.6	80.8%*	2%	92.2%	28%	40.0%
Home Language												
English	4.8	47.3%	9.6	22.5%	1.7	68%*	1.8	70.8%	2%	87.1%*	32%*	34.1%
Other language	4.3	53.5%	8.2	30.3%	1.2	80.3%*	1.4	75.9%	2%	93.6%*	24%*	40.1%
School Location												
Kumbo	5.8	47.6%	11.7*	25.7%	2.2**	67.5%**	2.8**	66.5%	4%**	86.7%**	34%**	26.7%**
Outside of Kumbo	3.7	55.5%	6.8*	31.3%	0.9**	83.6%**	0.9**	79.7%	2%**	95.2%**	22%**	46.5%**
Household Poverty Score												
Wealthiest Quartile	5.5*	41.4%***	11.4**	21.4%**	2.4***	64.5%***	2.1*	69.2%*	4%**	87.4%**	36%***	27.4%***
Other Quartile	3.9*	57.5%***	7.1**	32.7%**	0.9***	84.1%***	1.2*	78.2%*	2%**	94.7%**	22%***	45.5%***
Ate before School												
Yes	4.4	52.9%	8.3	29.5%	1.3	78.3%	1.4	75.1%	2%*	92.5%	26%	39.9%
No	4.2	57.5%	8.2	32.0%	0.8	85.6%	1.2	85.1%	0%*	96.8%	20%	50.3%

Time to Read at School													
Yes	4.5	50.0%**	8.6	28.6%	1.4	77.2%	1.7***	72.3%***	2%**	91.1%***	26%	40.4%	
No	4.1	61.5%**	7.8	30.7%	1.0	82.7%	0.7***	85.6%***	0%**	96.8%***	26%	40.1%	
Homework Help													
Yes	4.3	52.0%	7.8	30.0%	1.2	79.1%	1.5	74.7%	2%	92.6%	26%	41.1%	
Sometimes and No	4.5	55.2%	9.7	26.7%	1.5	77.7%	1.4	78.9%	2%	93.2%	26%	37.9%	
Reading Material at Home													
Yes	3.6	47.8%*	7.2*	30.4%	1.5	71.7%**	1.9*	59.7%***	2%*	89.6%*	26%	39.5%	
Sometimes and No	4.9	56.1%*	9.1*	28.6%	1.2	82.3%**	1.2*	85.1%***	2%*	94.5%*	26%	40.7%	
* represents significance at the 0.05 probability level ** represents significance at the 0.01 probability level *** represents significance at the 0.001 probability level													

APPENDIX C

Four data collection tools:

- **EGRA**
- **Stallings**
- **Dietary Diversity Survey**
- **School Profile Form**

EGRA

Please spend two minutes making light conversation with the pupil. Tell the child about yourself, and ask questions about things he/she likes to do, etc.

Pupil Assent

I work with Nascent Solutions, a group in Kumbo that is helping pupils. I am doing English testing to learn more about how to help pupils do better in English.

If you decide to take part you will be asked to do some short exercises of English letters, words, and stories. It will take about 20 minutes. You can stop participating at any time.

These exercises will not count as marks for you. Your teacher will not know how you did. You will not receive anything for doing the exercises, but you may be helping us to improve your school in the future.

Your test score will be secret. Your teacher and family are aware that you are taking part, but will not know your score. We will write a report about these exercises, but it will not include your name. These papers will be kept in a locked cupboard in the Nascent Solutions office in Kumbo.

Do you have any questions?

If you agree to do these exercises, please tick this box.

☐

Data collector, please tick this box if the pupil chooses to stop the exercises before finishing.

☐

1. Pupil ID _____													
	Day		month		Year					hour		minute	
2. Date:									3. Time at start				
4. School Name: _____										4a. School Code: _____			
5. Data collector name: _____										5a. Data collector team #: _____			
6. Pupil gender (circle):			Male						Female				
<i>Ask the pupil each question verbally, as in an interview. DO NOT READ THE ANSWER OPTIONS TO THE PUPIL UNLESS INDICATED TO DO SO. Wait for the pupil to respond to each question, then mark the answer that corresponds to his or her response.</i>													
7. What is your class? (circle):			1	2	3	4	5	6	<i>If the pupil is not in Class 3, contact your Team Captain.</i>				
8. How old are you?: _____ years					Don't know / no response								
9. Which language do you speak at home most frequently? _____										Don't know/ no response			
10. How are you in reading English?					Good			Ok	Poor	Don't know/ no response			
11. How often will you use English when you are a grown-up?					Every day			Some days	Never	Don't know/ no response			

12. How do you feel about English? <i>(read options to pupil)</i>	I like it	It is ok	I dislike it	Don't know/ no response		
13. Did you eat before coming to school today? (circle)		Yes	No	Don't know/ no response		
14. Do you have time to read books in your classroom or school library every day? (circle)		Yes	No	Don't know/ no response		
15. Does someone at home help you with your home work when you need help? (circle)	Yes/always/ Usually	Sometimes/ kind of	No/never/ rarely	Don't know/ no response		
16. Apart from your school books, are there books, newspapers, or other things for you to read at your house? (circle)	Yes/always/ Usually	Sometimes/ kind of	No/never/ rarely	Don't know/ no response		
QUESTION		ANSWER		POINTS		
17. How many people stay in your house? <i>(A house is a socio-economic unit of one or more people—regardless of blood or marital relationship—who have lived (or plan to live) together for at least six months out of the previous twelve in the same compound, who share resources, who usually eat together, and who recognize the same head.)</i>		-Seven or more		0		
		-Six		10		
		-Five		12		
		-Four		16		
		-Three		20		
		-One or two		29		
18. Does anyone in your house farm, keep animals, hunt, or fish?		-Yes		0		
		-No		2		
19. What type of floor does your house have?		-Dirt, ground, or other		0		
		-Wood, cement, or tile		6		
20. What do you usually use for cooking at your house? <i>(you may read the answer options to help the pupil to remember)</i>		-Collected/gifted firewood, or other		0		
		-Purchased firewood, kerosene/paraffin/petroleum, charcoal, sawdust/wood chips, electricity, or does not cook		9		
		-Gas		19		
21. Does your house have an <u>electric</u> iron?		-No		0		
		-Yes		6		
22. Does your house have a radio or a television?		-No		0		
		-Only radio		7		
		-Television (regardless of radio)		14		
23. Does your house have a wardrobe? (a piece of furniture to store clothes)		-No		0		
		-Yes		6		
Comments <i>(optional; to be used if there are unusual answers above):</i>						
Data collector Initials (after finishing the questions above):						
Captain Initials (after reviewing answers to questions above):						



Here is a page full of letters of the alphabet. Please tell me the NAMES of as many letters as you can – not the SOUNDS of the letters, but the names.

For example, the name of this letter [point to A] is “A”

Let’s practice: Tell me the name of this letter [point to v]

If the pupil responds correctly, say: **Good, the name of this letter is “VEE”**

If the pupil does not respond correctly, say: **The name of this letter is “VEE”**

Now try another one: Tell me the name of this letter [point to L]

If the pupil responds correctly, say: **Good, the name of this letter is “ELL”**

If the pupil does not respond correctly, say: **The name of this letter is “ELL”**

Do you understand what you are to do?

When I say “Begin”, please name the letters as quickly and carefully as you can. Start here and continue this way. [Point to the first letter on the row after the example and draw your finger across the first line] If you come to a letter you do not know, I will tell it to you. Otherwise I will keep quiet and listen to you. Ready? Begin.



Start the timer when the pupil reads the first letter. If the pupil does not begin within 3 seconds, start the timer, provide the letter name, and say “Please go on”. Follow along with your pencil and **clearly** mark any incorrect letters with a slash (/). Count self-corrections as correct. If you’ve already marked the self-corrected letter as incorrect, circle the letter and go on. **Stay quiet**, except when providing answers as follows: if the pupil hesitates for 3 seconds, provide the name of the letter, point to the next letter and say “Please go on”. Mark the letter you provide to the pupil as incorrect. If the pupil gives you the letter sound, rather than the name, provide the letter name and say: “Please tell me the name of the letter” This prompt may be given only **once** during the exercise.

AFTER 60 SECONDS SAY, “Thank you, you may stop”. Mark the final letter read with a bracket ().

Early stop rule: If the pupil does not give a single correct response on the first line, say “Thank you!”, discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example: A v L

1	2	3	4	5	6	7	8	9	10	
F	u	e	R	y	a	c	m	V	s	(10)
B	Z	I	H	k	D	J	w	X	P	(20)
L	q	O	N	g	T	U	z	M	j	(30)
t	G	W	A	l	n	O	Q	E	f	(40)
i	Y	r	h	C	K	v	p	d	b	(50)
x	S	h	m	E	H	A	Y	l	G	(60)
A	d	j	o	a	d	N	S	b	v	(70)
R	E	H	S	t	h	i	o	w	F	(80)
U	T	r	s	I	p	K	s	L	N	(90)
T	n	a	t	e	I	r	O	e	c	(100)

Time remaining on stopwatch at completion (number of SECONDS):

Check this box if the exercise was discontinued because the pupil had no correct answers in the first line:

Number of Correct Letters:

Data Collector Initials:

Captain Initials:



Here is a page full of letters of the alphabet. Please tell me the **SOUNDS** of as many letters as you can – not the **NAMES** of the letters, but the sounds.

For example, the sound of this letter [point to A] is “AH”

Let's practice: Tell me the sound of this letter [point to v]

If the pupil responds correctly, say: **Good, the sound of this letter is “VUH”**

If the pupil does not respond correctly, say: **The sound of this letter is “VUH”**

Now try another one: Tell me the sound of this letter [point to L]

If the pupil responds correctly, say: **Good, the sound of this letter is “LUH”**

If the pupil does not respond correctly, say: **The sound of this letter is “LUH”**

Do you understand what you are to do?

When I say “Begin”, please say the letter sounds as quickly and carefully as you can. Start here and continue this way. [Point to the first letter on the row after the example and draw your finger across the first line] If you come to a letter sound you do not know, I will tell it to you. Otherwise I will keep quiet and listen to you. Ready? Begin.

 Start the timer when the pupil reads the first letter sound. If the pupil does not begin within 3 seconds, start the timer, provide the letter sound, and say “Please go on”. Follow along with your pencil and **clearly** mark any incorrect letters with a slash (/). Count self-corrections as correct. If you've already marked the self-corrected letter as incorrect, circle the letter and go on. **Stay quiet**, except when providing answers as follows: if the pupil hesitates for 3 seconds, provide the sound of the letter, point to the next letter and say “Please go on”. Mark the letter you provide to the pupil as incorrect. If the pupil gives you the letter name, rather than the sound, provide the letter sound and say: “Please tell me the sound of the letter” This prompt may be given only **once** during the exercise.

AFTER 60 SECONDS SAY, “Thank you, you may stop.” Mark the final letter read with a bracket (]).

Early stop rule: If the pupil does not give a single correct response on the first line, say “Thank you!”, discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example: A v L

1	2	3	4	5	6	7	8	9	10	
F	u	e	R	y	a	c	m	V	s	(10)
B	Z	I	H	k	D	J	w	X	P	(20)
L	q	O	N	g	T	U	z	M	j	(30)
t	G	W	A	l	n	O	Q	E	f	(40)
i	Y	r	h	C	K	v	p	d	b	(50)
x	S	h	m	E	H	A	Y	l	G	(60)
A	d	j	o	a	d	N	S	b	v	(70)
R	E	H	S	t	h	i	o	w	F	(80)
U	T	r	s	I	p	K	s	L	N	(90)
T	n	a	t	e	I	r	O	e	c	(100)

Time remaining on stopwatch at completion (number of SECONDS):

Check this box if the exercise was discontinued because the pupil had no correct answers in the first line:

Number of Correct Letters:

Data Collector Initials:

Captain Initials:



Here are some fake words. Fake means they are not real words. Let's play like they are real English words. I would like you to read as many as you can. Do not spell the words, but read them. For example, [point to the example word: ut] this fake word is: "ut"

Let's practice: Please read this word [point to the next word: dif]

If the pupil says "dif", say: **Very good: "dif"**

If the pupil does not say "dif" correctly, say: **This fake word is "dif"**

Now try another one: Please read this word [point to the next word: mab]

If the pupil says "mab", say: **Very good: "mab"**

If the pupil does not say "mab" correctly, say: **This fake word is "mab"**

Do you understand what you are to do?

When I say "Begin", read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. [Point to the first letter on the row after the example and draw your finger across the first line] I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Ready? Begin.

 Start the timer when the pupil reads the first word. If the pupil does not begin within 3 seconds, start the timer, provide the word, and say "Please go on". Follow along with your pencil and **clearly** mark any incorrect words with a slash (/). Count self-corrections as correct. If you've already marked the self-corrected word as incorrect, circle the letter and go on. **Stay quiet**, except when providing answers as follows: if the pupil hesitates for 3 seconds, provide the word, point to the next word and say "Please go on". Mark the word you provide to the pupil as incorrect.

AFTER 60 SECONDS SAY, "Thank you, you may stop". Mark the final word read with a bracket ().

Early stop rule: If you have slashed/marked as incorrect all of the answers on the first line, say "Thank you!", discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example:	ut	dif	mab		
1	2	3	4	5	
hoy	geg	pim	av	ret	(5)
mog	nin	tup	daw	ul	(10)
saz	mup	ek	pag	ril	(15)
ev	gam	mib	zet	fos	(20)
lig	el	seb	dof	lub	(25)
tid	wab	hoz	ped	uf	(30)
gez	daf	pid	von	gax	(35)
wob	ib	fap	heg	nar	(40)
jek	bew	nep	ut	ren	(45)
faw	vub	pes	gep	vad	(50)

Time remaining on stopwatch at completion (number of SECONDS):

Check this box if the exercise was discontinued because the pupil had no correct answers in the first line:

Number of Correct Nonwords:

Data Collector Initials:

Captain Initials:



Here is a short story. I want you to read it aloud. When you have finished, I will ask you some questions about what you have read.

Do you understand what you are to do?

When I say "Begin", read the story as quickly and carefully as you can. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Ready? Begin.

 Start the timer when the pupil reads the first word. If the pupil does not begin within 3 seconds, start the timer, provide the word, and say "Please go on". Follow along with your pencil and **clearly** mark any incorrect words with a slash (/). Count self-corrections as correct. If you've already marked the self-corrected word as incorrect, circle the word and go on. **Stay quiet**, unless the pupil hesitates for 3 seconds, in which case provide the word, point to the next word and say "Please go on". Mark the word you provide to the pupil as incorrect.

AFTER 60 SECONDS SAY, "Thank you, you may stop". Mark the final word read with a bracket ().

Early stop rule: If the pupil reads no correct words in the first box, say "Thank you!", discontinue this exercise, check the box at the bottom, and go on to the next exercise.

When 60 seconds are up or if the pupil finishes reading the full story in less than 60 seconds, **REMOVE the story from in front of the pupil, and ask the first question below**. Mark the pupil's response as Correct or Incorrect and continue. Give the pupil 15 seconds to answer each question. If the pupil does not answer within 15 seconds, mark the question as Incorrect and ask the next question. Read the questions corresponding to each box read by the pupil.

When the reading fluency is complete, give the following instructions: Now I am going to ask you a few questions about the story you have read. Try to answer the questions as best as you can.		Correct	Incorrect
Bonje likes school. She is happy to walk with Seka to school in the mornings. (15)	What does Bonje like? [school, walking with Seka to school]		
One day, Seka pretends to see a snake. Bonje is afraid. (11)	Why did Bonje feel afraid? [Seka made her think there was a snake; she was afraid of the snake]		
Seka laughs at her. Bonje gets angry and walks faster to be alone. (13)	What did Seka do that made Bonje angry? [he laughed at her]		
Seka feels bad. In the afternoon, Seka gives Bonje a flower to say sorry. (14)	What did Seka give Bonje to say sorry? [a flower]		
She smiles. They walk home together. (6)	How do you know Bonje forgave Seka? [she smiled, she walked home with him]		
Time remaining on stopwatch at completion (number of SECONDS):			
Check this box if the exercise was discontinued because the pupil had no correct answers in the first line:			
Number of Correct Words:	Number of Questions Correct:	Number of Questions Asked:	
		Data Collector Initials:	
		Captain Initials:	

Listening Comprehension

I am going to read you a short story aloud **ONCE** and then ask you some questions. Please listen carefully and answer the questions as best you can.

Do you understand what you are to do?

Read the following passage to the pupil **ONLY ONE TIME**, slowly (about 1 word per second):

"Chung and Buhven go to fetch water. They swim in the river. When it is time to go, Buhven can't find his bucket. Chung finds the bucket behind a bush. The boys bring the water home."

Ask the first question below. Mark the pupil's response as Correct or Incorrect and move on to the next question. Give the pupil 15 seconds to answer each question. If the pupil does not answer within 15 seconds, mark the question as Incorrect and move on to the next question.

		Correct	Incorrect
Who did Chung go with to fetch water?	[Buhven]		
What did the boys first do at the river?	[swam, went swimming]		
What problem did Buhven have?	[he lost his bucket, couldn't find his bucket]		
How did the bucket get lost?	[they were careless when they got to the river, they were busy playing, they went swimming]		
Where did Chung find the bucket?	[behind the bush]		
Number of Correct Answers:	Data Collector Initials:		
	Captain Initials:		

Closing Remarks

This marks the end of the EGRA exam.

Thank the pupil for his/her participation by saying, **"I want to thank you for working so hard today!"**

Hand the pupil a pencil and explain that it is a gift in appreciation of his/her effort.

Say goodbye to the pupil and send him/her back to class.

Classroom Observation Snapshot

Please spend five minutes introducing yourself and building rapport with the teacher.

Teacher Informed Consent

I work with Nascent Solutions, an organization based in Kumbo. I am researching teacher and classroom habits in primary schools in Bui division. I wish to observe your classroom environment and make notes. The information will be used to improve our project and future teacher training.

If you decide to participate you do not need to do anything special. Please continue with your normal teaching duties as if I'm not in the room. Please also encourage your pupils to continue as if I'm not in the room. The observation will take about 50 minutes. You can stop participating at any time.

This study likely does not involve any significant risks to you, your pupils, or classroom. You will not receive any compensation for participating, though the information will improve future trainings in which you may be invited to participate.

The information collected will be completely confidential. I will not record your name or the names of your pupils. Information about your individual classroom will not be shared with your head teacher, inspectors, pupils, or their parents. Any report including this information will not identify your specific classroom. These forms will be kept in a locked cupboard in the Nascent Solutions office in Kumbo.

Participation in this study is voluntary. You have the right not to participate at all or stop in the middle of the observation. Deciding not to participate or choosing to stop early will not result in any anticipated negative result for you, your job, or your relationship with Nascent Solutions.

Do you have any questions?

By signing this form, you acknowledge that you have understood the above and given consent to be observed in your classroom today.

Name of Teacher

School

Signature of Teacher

Date

Data collector, please tick this box if the teacher chooses to stop before finishing.

☐

1. Teacher ID _____									
				day		month		year	
2. Date of observation:									
3. School name: _____								3a. School Code:	
4. Data collector name: _____								4a. Data collector team #:	
6. Class observed (circle):				1	2	3	4	5	6
7. Subject(s) observed: _____									
8. Teacher's gender:			Male		Female				
9. What type of employment contract do you have?	Government school – Civil Servant	Government school - Contract	Government school - PTA	Private school - Permanent	Private school - PTA	Other			
10. What is your level of training?			Grade 1		Grade 2		None		Other
11. How many years have you taught in this school?		_____ years							
12. Are you from Bui division?			Yes		No				
			Girls	Boys	Total				
13.	How many pupils are enrolled in this class?								
14.	How many pupils are present in this class today?								
15. Is there a blackboard in the classroom?					Yes		No		
16. Are there any charts, pictures, maps on the wall, etc.?					Yes		No		
17. What percentage of pupils have textbooks or other printed material today?									
90% or more		About 70%		About 50%		About 30%		10% or less	
18. What percentage of pupils have notebooks or other writing material today?									
90% or more		About 70%		About 50%		About 30%		10% or less	
Comments (optional; to be used if there are unusual answers above):									

Data collector Initials (after finishing the questions above):									
Captain Initials (after reviewing answers to questions above):									

Number: 1	Classroom Observation Snapshot					Time:
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.						
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All	

		<u>Material</u>				
<u>Activity</u>		No Material	Textbook	Notebook	Blackboard	Learning Aides
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M

T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All
-------------	------------	---------	--------------------------------	--------------------------------	---------

<u>Activity</u>	<u>People Involved</u>		
8. Social Interaction	T	1 S L A	
	P	1 S L	
9. Pupil(s) Uninvolved	P	1 S L	
10. Discipline	T	1 S L A	
11. Classroom Management	T	1 S L A	
	P	1 S L	
12. Classroom Management Alone		T	
13. Teacher Social Interaction or Teacher Uninvolved		T	
14. Teacher Out of the Room		T	

<u>Additional Comments:</u>	
Data Collector Initials: Captain Initials:	

Number: 2	Classroom Observation Snapshot					Time:
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.						
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All	

		Material				
Activity		No Material	Textbook	Notebook	Blackboard	Learning Aides
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M

T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All
-------------	------------	---------	--------------------------------	--------------------------------	---------

Activity	People Involved		
8. Social Interaction	T	1 S L A	
	P	1 S L	
9. Pupil(s) Uninvolved	P	1 S L	
10. Discipline	T	1 S L A	
11. Classroom Management	T	1 S L A	
	P	1 S L	
12. Classroom Management Alone		T	
13. Teacher Social Interaction or Teacher Uninvolved		T	
14. Teacher Out of the Room		T	

Additional Comments:	
Data Collector Initials: Captain Initials:	

Number: 3	Classroom Observation Snapshot					Time:
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.						
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All	

		<u>Material</u>				
<u>Activity</u>		No Material	Textbook	Notebook	Blackboard	Learning Aides
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M

T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All
-------------	------------	---------	--------------------------------	--------------------------------	---------

<u>Activity</u>	<u>People Involved</u>			
8. Social Interaction	T	1 S L A		
	P	1 S L		
9. Pupil(s) Uninvolved	P	1 S L		
10. Discipline	T	1 S L A		
11. Classroom Management	T	1 S L A		
	P	1 S L		
12. Classroom Management Alone				T
13. Teacher Social Interaction or Teacher Uninvolved				T
14. Teacher Out of the Room				T

<u>Additional Comments:</u>	
Data Collector Initials: Captain Initials:	

Number: 4	Classroom Observation Snapshot					Time:
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.						
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All	

		<u>Material</u>				
<u>Activity</u>		No Material	Textbook	Notebook	Blackboard	Learning Aides
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M

T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All
-------------	------------	---------	--------------------------------	--------------------------------	---------

<u>Activity</u>	<u>People Involved</u>		
8. Social Interaction	T	1 S L A	
	P	1 S L	
9. Pupil(s) Uninvolved	P	1 S L	
10. Discipline	T	1 S L A	
11. Classroom Management	T	1 S L A	
	P	1 S L	
12. Classroom Management Alone		T	
13. Teacher Social Interaction or Teacher Uninvolved		T	
14. Teacher Out of the Room		T	

<u>Additional Comments:</u>	
Data Collector Initials: Captain Initials:	

Number: 5	Classroom Observation Snapshot					Time:
<i>Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.</i>						
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All	

		<u>Material</u>				
<u>Activity</u>		No Material	Textbook	Notebook	Blackboard	Learning Aides
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A
	P	1 M	1 M	1 M	1 M	1 M

T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All
-------------	------------	---------	--------------------------------	--------------------------------	---------

<u>Activity</u>	<u>People Involved</u>		
8. Social Interaction	T	1 S L A	
	P	1 S L	
9. Pupil(s) Uninvolved	P	1 S L	
10. Discipline	T	1 S L A	
11. Classroom Management	T	1 S L A	
	P	1 S L	
12. Classroom Management Alone		T	
13. Teacher Social Interaction or Teacher Uninvolved		T	
14. Teacher Out of the Room		T	

<u>Additional Comments:</u>	
Data Collector Initials: Captain Initials:	

Number: 7	Classroom Observation Snapshot					Time:	
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.							
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All		
		Material					
Activity		No Material	Textbook	Notebook	Blackboard	Learning Aides	
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All		
Activity	People Involved						
8. Social Interaction	T	1 S L A					
	P	1 S L					
9. Pupil(s) Uninvolved	P	1 S L					
10. Discipline	T	1 S L A					
11. Classroom Management	T	1 S L A					
	P	1 S L					
12. Classroom Management Alone							T
13. Teacher Social Interaction or Teacher Uninvolved							T
14. Teacher Out of the Room							T
Additional Comments:							
Data Collector Initials:							
Captain Initials:							

Number: 8	Classroom Observation Snapshot					Time:	
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.							
T = Teacher	P = Pupils	1 = One	M = Multiple	A = All			
		Material					
Activity		No Material	Textbook	Notebook	Blackboard	Learning Aides	
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All		
Activity	People Involved						
8. Social Interaction	T	1 S L A					
	P	1 S L					
9. Pupil(s) Uninvolved	P	1 S L					
10. Discipline	T	1 S L A					
11. Classroom Management	T	1 S L A					
	P	1 S L					
12. Classroom Management Alone							T
13. Teacher Social Interaction or Teacher Uninvolved							T
14. Teacher Out of the Room							T
Additional Comments:							
Data Collector Initials: Captain Initials:							

Number: 9	Classroom Observation Snapshot					Time:	
Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.							
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All		
		Material					
Activity		No Material	Textbook	Notebook	Blackboard	Learning Aides	
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All		
Activity	People Involved						
8. Social Interaction	T	1 S L A					
	P	1 S L					
9. Pupil(s) Uninvolved	P	1 S L					
10. Discipline	T	1 S L A					
11. Classroom Management	T	1 S L A					
	P	1 S L					
12. Classroom Management Alone							T
13. Teacher Social Interaction or Teacher Uninvolved							T
14. Teacher Out of the Room							T
Additional Comments:							
Data Collector Initials:							
Captain Initials:							

Number: 10	Classroom Observation Snapshot					Time:	
<i>Locate the teacher, identify what he/she is doing, what materials are being used, and pupil involvement. Continue to scan the classroom to the right, noting pupil activity until you come back to the teacher. The observation should take around 15 seconds. Circle the appropriate codes below. Note anything out of the ordinary in Additional Comments.</i>							
T = Teacher	P = Pupils		1 = One	M = Multiple	A = All		
		Material					
Activity		No Material	Textbook	Notebook	Blackboard	Learning Aides	
1. Reading Aloud	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
2. Demonstration / Lecture	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
3. Discussion / Question & Answer	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
4. Practice & Drill	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
5. Assignment / Seat Work	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
6. Copying	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
7. Verbal Directions	T	1 M A	1 M A	1 M A	1 M A	1 M A	
	P	1 M	1 M	1 M	1 M	1 M	
T = Teacher	P = Pupils	1 = One	S = Small Group (5 or less)	L = Large Group (6 or more)	A = All		
Activity	People Involved						
8. Social Interaction	T	1 S L A					
	P	1 S L					
9. Pupil(s) Uninvolved	P	1 S L					
10. Discipline	T	1 S L A					
11. Classroom Management	T	1 S L A					
	P	1 S L					
12. Classroom Management Alone							T
13. Teacher Social Interaction or Teacher Uninvolved							T
14. Teacher Out of the Room							T
Additional Comments:							
Data Collector Initials:							
Captain Initials:							

Dietary Diversity

Please spend two minutes making light conversation with the pupil. Tell the child about yourself, and ask questions about things he/she likes to do.

Pupil Assent

I work with Nascent Solutions, a group in Kumbo that helps pupils. I am asking what you eat to help pupils become healthier.

If you want to take part you will be asked questions about what you and your family ate yesterday. There is no right or wrong answer. It will take about 10 minutes. You can stop at any time.

These exercises will not count as marks for you. You will not receive anything for doing the exercises, but you may be helping us to improve your school in the future.

Your answers will be secret. Your teacher and family are aware that you are doing the exercises, but will not know your answers. We will write a report about this, but it will not include your name. These papers will be kept in a locked cupboard in the Nascent Solutions office in Kumbo. Do you have any questions?

If you agree to take part, please tick this box. ☐

Data collector, please tick this box if the pupil chooses to stop the exercises before finishing. ☐

1. Pupil ID _____													
	day		month		Year					hour		minute	
2. Date:									3. Time				
4. School Name: _____										4a. School Code: _____			
5. Data collector name: _____										5a. Data collector team #: _____			
6. Pupil gender (circle):					Male					Female			
<i>Ask the pupil each question verbally, as in an interview. DO NOT READ THE ANSWER OPTIONS TO THE PUPIL UNLESS INDICATED TO DO SO. Wait for the pupil to respond to each question, then mark the answer that corresponds to his or her response.</i>													
7. What is your class? (circle):						1	2	3	4	5	6		
8. How old are you?: _____ years					Don't know / no response								
QUESTION								ANSWER			POINTS		
9. How many people stay in your house? (A household is a socio-economic unit of one or more people—regardless of blood or marital relationship—who have lived (or plan to live) together for at least six months out of the previous twelve in the same compound, who share								-Seven or more			0		
								-Six			10		
								-Five			12		
								-Four			16		
								-Three			20		

<i>resources, who usually eat together, and who recognize the same head.)</i>	-One or two	29
10. Does anyone in your house farm, keep animals, hunt, or fish?	-Yes -No	0 2
11. What type of floor does your house have?	-Dirt, ground, or other -Wood, cement, carpet, or tile	0 6
12. What do you usually use for cooking at your house? <i>(you may read the answer options to help the pupil to remember)</i>	-Collected/gifted firewood, or other -Purchased firewood, kerosene/paraffin/petroleum, charcoal, sawdust/wood chips, electricity, or does not cook -Gas	0 9 19
13. Does your house have an <u>electric</u> iron?	-No -Yes	0 6
14. Does your house have a radio or a television?	-No -Only radio -Television (regardless of radio)	0 7 14
15. Does your house have a wardrobe? (a piece of furniture to store clothes)	-No -Yes	0 6
Comments <i>(optional; to be used if there are unusual answers above):</i> _____ _____ _____ _____		
Data collector Initials <i>(after finishing the questions above):</i> Captain Initials <i>(after reviewing answers to questions above):</i>		

Dietary Recall: Yesterday's food intake

Time	Food Item	Volume	Price (if purchased outside home)	Food group
Is what you ate yesterday different than normal?		higher	normal	lower

Data collector initials _____

Team Captain initials _____

Group number	Food group	Examples	Standard	Meets Standard Yes=1 No=0	Any consumed? Yes=1 No=0
1	cereals, white roots, tubers, and plantains	Corn, fufu, irish potato, plantain, white yam, sweet white yam, cassava (gari), cocoyam, rice, bread, banana	1 cooking spoon 1 medium 1 slice		
2	yellow or orange flesh vegetables, tubers, oils, and fruits	sweet potato, sweet yellow yam, carrots, pepper sauce, pumpkin, squash, sweet red pepper, Fruit: papaya, mango, cantalope, 100% fruit juice, Other: red palm oil, Yellow soup (red palm)	1 cooking spoon 1 medium 1/2 cup		
3	Dark leafy green vegetables	Leaves: huckleberry, Eru, Pumpkin, Bitter leaf, spinach, Vine and leaf, cocoyam, Soup: black (cocoyam leaf), Cocoyam leaf	1 cooking spoon 1/2 cup		
4	Other fruits and vegetables	Vegetables: young elephant grass, green beans, garden eggs, white carrot, onion, garlic, plum, Chinese cabbage, corn, Soups: tomato stew, okro soup, mixed vegetables Fruits: pineapple, orange, guava, tree tomato, watermelon, banana, pear, sugar cane, 100% fruit juice	1 cooking spoon 1 medium 1/2 cup		
5	organ meats	heart, liver, brain, lungs	1 tbsp		
6	Fleshmeats and fish	beef, chicken, fish, snake, bush meat, pork	1/2 palm		
7	Eggs	from any bird	2 medium		
8	Legumes, Nuts and seeds	cow pea, black beans, peanut butter, Soup: ground nut, melon seed, cowpea	1 cooking spoon 1 pack		
9	Milk and milk product	milk, cheese, yogurt, cream	8 tbsp		
1, 8	Mixed foods	Corn and beans, Potato and beans	2 cooking spoons		

Data collector Initials (after finishing the questions above):

Captain Initials (after reviewing answers to questions above):

Yesterday's dietary intake

Now I want to talk to you about what you ate yesterday. Can you think of what you ate? I will ask you some questions. If you cannot remember I will help you. *[Ask the pupils about what they ate yesterday.]*

Remind them constantly that you are asking about yesterday, for the full day. You do not have to follow a script. Be sensible and think of questions that are necessary to get the information. If they cannot remember, you can help them.

Start with colors: ask if they had something green or white, if they had any fruits or snacks, etc. You can also ask them what they normally eat.

Only fill out the Dietary Recall sheet during the interview, and do not fill out the final column until you have finished all your interviews for the day.]

Example Questions:

A. What was the first thing you ate yesterday?

- a. **Can you show me the size?** *[point to the volume measurements that approximate size. If they show you with their hand or fist, please approximate with the measurements provided.]*
- b. **What time was that?** *[morning, afternoon, evening. Also ask if it was at school, or before]*
- c. **Did you have anything to drink? Any fruit?** *[think of typical morning items]*
- d. *Think of any items that were not mentioned but are commonly eaten together [milk with tea, jam on bread, etc.]?*
- e. **Fruits, meats, etc.?**

B. When was the next time you ate?

C. Did you eat again in the evening or before bed?

D. Did you have any other snacks throughout the day? *[picked mangoes from a tree, groundnuts, etc.]*

E. Did you buy any food on the street? *[if they purchased street food, ask how much they paid for it, and who they bought it from]*

F. Was this a "normal amount" you ate? *[We want to make sure that this food intake was like any typical day - no holiday celebration, wedding, or fasting]*



School Profile Data Collection Form



School name: _____ Village: _____

Sub-division: _____ GPS Coordinates (degrees) N _____ E _____

Head teacher name: _____ Head teacher phone number: _____

PTA Chairperson name: _____ PTA Chairperson phone number: _____

Does this school have an improved water source (See definition on following page)? Yes No

If yes, what type of improved water source? _____

Does this school have an improved sanitation facility (See definition on following page)? Yes No

If yes, what type of improved sanitation facility? _____

Does this school have a kitchen or cooking facility? Yes No

If yes, describe it: _____

Does this school have a food commodity storage facility? Yes No

If yes, describe it: _____

Does this school have a library? Yes No

If yes, describe it: _____

Did pupils at this school receive deworming medication in the previous 12 months? Yes No

If yes, how many students received deworming medication? _____

According to the timetable, how many minutes does the long break last? _____ minutes

According to the timetable, how many minutes of English language instruction do Classes 1-2 receive per week? _____ mins**2015-16 Pupil Enrolment**

Class 1 _____ M _____ F _____ Total

Class 2 _____ M _____ F _____ Total

Class 3 _____ M _____ F _____ Total

Class 4 _____ M _____ F _____ Total

Class 5 _____ M _____ F _____ Total

Class 6 _____ M _____ F _____ Total

November 2015 Pupil Attendance Percentage

Class 1 _____%M _____%F _____%Total

Class 2 _____%M _____%F _____%Total

Class 3 _____%M _____%F _____%Total

Class 4 _____%M _____%F _____%Total

Class 5 _____%M _____%F _____%Total

Class 6 _____%M _____%F _____%Total

Number of Class 1-6 teachers who teach daily _____

Does this school track teacher attendance? Yes No

If yes, what was November 2015 attendance for Class 1-6 teachers? _____%

Head teacher signature _____ Date _____

Nascent Solutions staff signature _____ Date _____

Definition of Improved Water Source

To determine whether a school is using an improved water source, the school administrator is asked:

1. To identify the main source of water for the school

2. Whether the water is normally available from the identified source(s)

3. Whether the water was unavailable from the identified source(s) in the past two weeks for a day or longer

An improved water source is an infrastructure improvement to a water source, a distribution system, or a delivery point. By nature of its design and construction, the improvement is likely to protect the water source from external contamination, in particular fecal matter.

Improved water sources are:

- Piped water into dwelling, plot, or yard
- Public tap/standpipe
- Tube well/borehole
- Protected dug well
- Protected spring
- Rainwater collection

Unimproved water sources are:

- Unprotected dug well
- Unprotected spring
- Cart with small tank/drum
- Tanker truck
- Surface water (river, dam, lake, pond, stream, canal)

Definition of Improved Sanitation Facility

To be considered adequate, the school must have separate improved sanitation facilities available for the use of both males and females.

Improved sanitation facilities are:

- Flush or pour/flush facilities connected to a:
 - Piped sewer system
 - Septic system
 - Pit latrine
- Pit latrines with a slab
- Composting toilets
- Ventilated improved pit latrines

Unimproved sanitation facilities are:

- Flush or pour/flush toilets without a sewer connection
- Pit latrines without slab/open pit
- Bucket latrines
- Hanging toilets/latrines
- No facilities – open defecation

APPENDIX D

Sampling Guidelines

Each day, a team needs to complete:				
<u>Tool</u>	<u>Number required</u>	<u>Number recommended (in case of pupil/teacher absence)</u>	<u>Among</u>	<u>How?</u>
EGRA	19	23	Class 3 pupils only	One captain gets the pupil roster for class 3 from the head teacher. Carefully count the number of pupils. --If you count 19 pupils or less, interview all of them. --If you count 20-38 pupils, start from the top of the roster and select every 2nd pupil. When you reach the end, you must cycle again from the top, skipping the previously selected pupils. --If you count 39-57 pupils, start from the top of the roster and select every 3rd pupil. When you reach the end, you must cycle again from the top, skipping the previously selected pupils. --If you count 58-76 pupils, start from the top of the roster and select every 4th pupil. When you reach the end, you must cycle again from the top, skipping the previously selected pupils. --If you count 77+ pupils, start from the top of the roster and select every 5th pupil. When you reach the end, you must cycle again from the top, skipping the previously selected pupils. The other captain should write down the name and class of each pupil that is selected. These are the pupils who will be interviewed.
Teacher observation	5	6	Class 1 - 6 teachers	One captain gets the teacher names for classes 1 - 6 and <u>lists them in alphabetical order</u>. --If you count 5 teachers or fewer, observe all of them. --If you count 6-10 teachers, start from the top of the list and select every 2nd teacher. When you reach the end, you must cycle again from the top, skipping the previously selected teachers. The other captain should write down the name and class of each teacher that is selected. These are the teachers who will be observed.
Dietary diversity survey	20	24	Class 1 - 6 pupils	One captain gets the pupil rosters for classes 1 - 6 from the head teacher. Pretend like all the classes have been combined into one class with one roster. Carefully sum all pupils from classes 1-6. Divide the sum by 20. The answer is called "x". Starting at the top of the class 1 roster, one captain selects every "xth" pupil until the end of the class 6 roster is reached. The other captain should write down the name and class of each pupil that is selected. These are the pupils who will be interviewed. Begin interviews with class 1, continue to class 2, and so on.

APPENDIX E

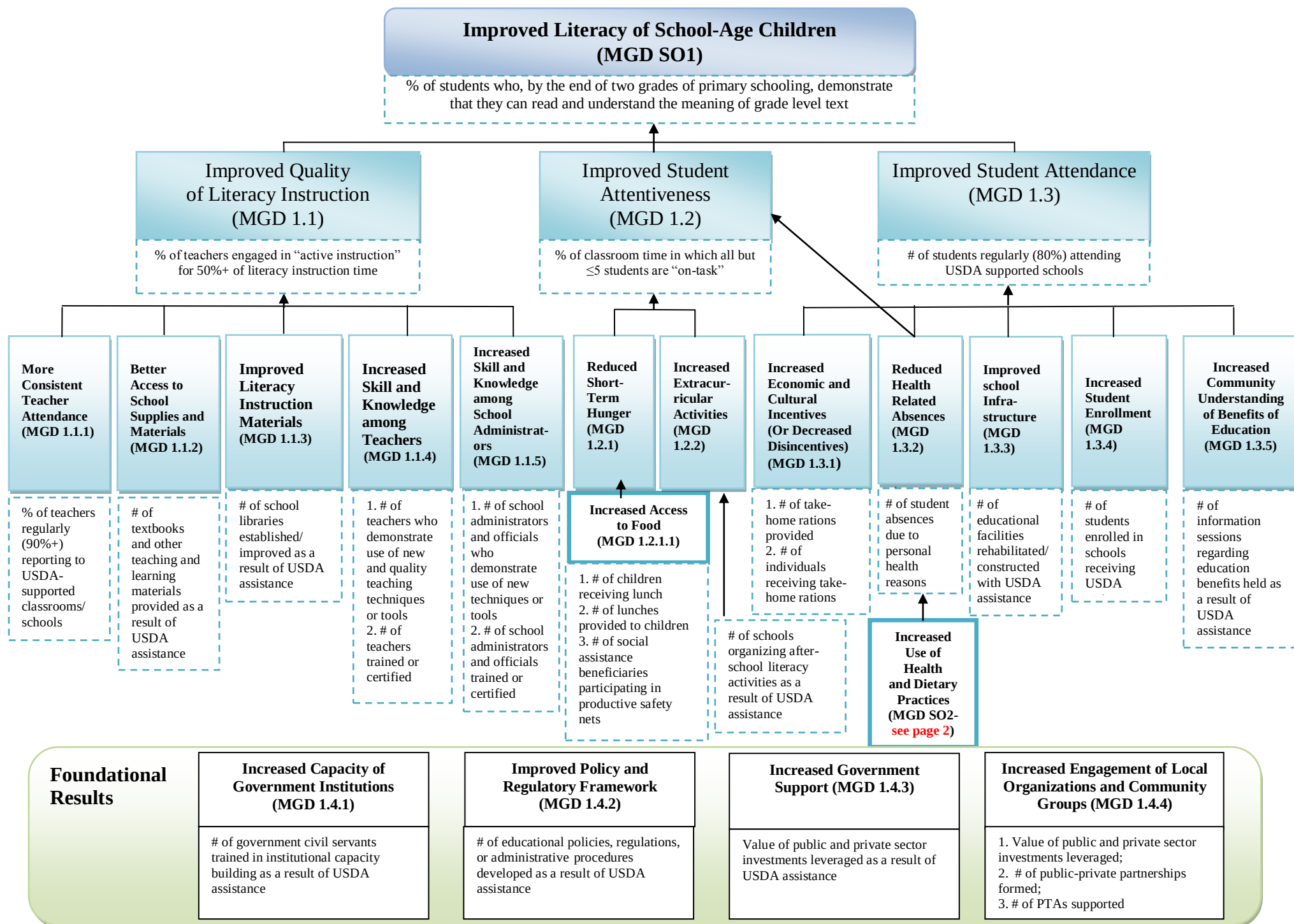
Project Schools		
#	School Name	Sub-Division
1	PS Vekovi	Jakiri
2	CS Vekovi	Jakiri
3	GS Wvem	Jakiri
4	CBC Kishiy	Kumbo
5	IPS Roh	Kumbo
6	IPS Njombo	Kumbo
7	CS Shisong	Kumbo
8	PS Kumbo	Kumbo
9	GS Yungkui	Kumbo
10	CS Melim	Kumbo
11	GPS Kiyan	Kumbo
12	CS Mbveh	Kumbo
13	GS Njavnyuy	Kumbo
14	PS Roberta	Kumbo
15	CS Mbah	Kumbo
16	GS Sang	Mbven
17	GS Rifem	Mbven
18	GS Dzeng	Nkum
19	PS Mah	Nkum
20	CS Ngondzen	Nkum
21	CBC Nseh	Nkum
22	CS Dzeng	Nkum
23	GS Tatum	Nkum
24	CS Tatum	Nkum
25	CS Ngeptang	Noni
26	GS Febueh	Noni
27	CS Djottin	Noni
28	GS Nkor	Noni
29	GS Chamkung	Noni
30	GS Mbockenghas	Oku
31	GS Itoh Boh	Oku
32	CBC Elak	Oku
33	GS Tolon	Oku
34	CS Mbam	Oku
35	GS Mbockjikejem	Oku
36	GS Keyon	Oku
37	GS Ikal -Lui	Oku
38	GS Ichim	Oku
39	GS Ibal	Oku
40	GS Mbockevu	Oku

Comparison Schools

#	School Name	Sub-Division
1	IPS Vekovi	Jakiri
2	GBS Jakiri (Anglais)	Jakiri
3	GS Nsom	Jakiri
4	GS Sop	Jakiri
5	GS Yer	Jakiri
6	CS Sop	Jakiri
7	GS Taron	Jakiri
8	GS Kiih Tobin	Kumbo
9	GS Melim	Kumbo
10	Pabes Tobin	Kumbo
11	GS Kikaikelaki	Kumbo
12	GBPS Kumbo	Kumbo
13	GS Kitiwum	Kumbo
14	IPS Bamkikaai	Kumbo
15	GS Mbah	Kumbo
16	CS Kitiwum	Kumbo
17	CS Ndzengwev	Kumbo
18	GS Mbohku (SOS only)	Kumbo
19	GS Shukov	Mbven
20	GS Reeh	Mbven
21	GS Mbohgwen	Nkum
22	GS Mbabu Nseh 1	Nkum
23	CS Kuvlu	Nkum
24	GS Mboliv	Nkum
25	GS Kishong	Nkum
26	GS Kovifem	Nkum
27	GS Kifem	Nkum
28	GS Kaiy (SOS only)	Nkum
29	GS Buh	Nkum
30	GS Ngendzen	Nkum
31	GS Banten (SOS only)	Nkum
32	GS Engai-Nkor	Noni
33	CS Nkor	Noni
34	GS Enjong Mbinon (SOS only)	Noni
35	GS Simonkoh	Oku
36	GS Manchok	Oku
37	GS Ngemsiba	Oku
38	GS Nsang	Oku
39	GS Mbam-Oku	Oku
40	GS Mboh	Oku
41	GS Ngvuinkei 2	Oku
42	GBBPS Lang	Oku
43	GS Lang	Oku
44	GS Kesotin	Oku

APPENDIX F

ALIGN Cameroon Results Framework and Indicators



APPENDIX F

ALIGN Cameroon Results Framework and Indicators

Health and Dietary
Practices RF, flowing
in to MGD 1.3.2

Increased Use of Health and Dietary Practices (MGD SO2)

% of school-age children consuming
a minimum acceptable diet

Improved Knowledge of Health and Hygiene Practices (MGD 2.1)

1. % of school-age children observed using correct handwashing techniques
2. # of individuals trained in child hygiene as a result of USDA assistance

Increased Knowledge of Safe Food Prep and Storage Practices (MGD 2.2)

- # of people trained in food preparation and food storage as a result of USDA assistance

Increased Knowledge of Good Nutrition Practices (MGD 2.3)

- # of people trained in child health and nutrition as a result of USDA assistance

Increased Access to Clean Water and Sanitation Services (MGD 2.4)

1. # of schools using an improved water source
2. # of schools with improved sanitary facilities

Increased Access to Preventative Health Interventions (MGD 2.5)

- # of students receiving deworming medication(s)

Increased Access to Requisite Food Prep and Storage Tools and Equipment (MGD 2.6)

- # of schools receiving adequate food prep and storage equipment as a result of USDA assistance

Foundational Results

Increased Capacity of Government Institutions (MGD 2.7.1)

- # of government civil servants trained in institutional capacity building as a result of USDA assistance

Improved Policy and Regulatory Framework (MGD 2.7.2)

- # of child health and nutrition policies, regulations, or administrative procedures developed as a result of USDA assistance

Increased Government Support (MGD 2.7.3)

- Value of public and private sector investments leveraged as a result of USDA assistance

Increased Engagement of Local Organizations and Community Groups (MGD 2.7.4)

1. Value of public and private sector investments leveraged;
2. # of public-private partnerships formed;
3. # of PTAs supported