Total Reading Approach for Children

ALL CHILDREN READING: A GRAND CHALLENGE FOR DEVELOPMENT

Annual Report for Year 2

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Prepared by:

World Education

In Cooperation with:

Kampuchean Action for Primary Education

USAID FROM THE AMERICAN PEOPLE

World Vision

Australian AID

Abbreviation

BETT	Basic Education and Teacher Training project
DCD	Department of Curriculum Development
DOE	District Office of Education
EGRA	Early Grade Reading Assessment
ET4D	Educational Technology for Development
KAPE	Kampuchean Action for Primary Education
M&E	Monitoring and Evaluation
MoEYS	Ministry of Education, Youth and Sports
NGO	Nongovernmental Organization
PED	Primary Education Department
PMP	Performance Management Process
POE	Provincial Office of Education
RRS	Rapid Response System
TTS	Thun Thean Seksa
TRAC	Total Reading Approach for Children
TWG	Technical Working Group
WE	World Education
WV	World Vision

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1. Executive Summary

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Key Lesson Learnt:

1. Reading benchmarks have been a useful foundation through which to improve/facilitate continuous assessment, develop m-learning applications, and introduce a rapid response system to meet the needs of learners with special needs.

2. The introduction of Literacy Coaches has been a viable solution to the need to put a much higher priority on reading acquisition, as per recent MoEYS planning. This intervention has also stimulated interest among commune councils leading to funding support to sustain the activity using commune investment funds.

3. Efforts to involve parents in the literacy enhancement efforts have been difficult due to the observation that parents are *time-poor*. Although parents have the best of intentions when it comes to helping their children to learn, they often do not have enough time to come to the school on a regular basis to work with their children and borrow teaching aids from the library, as originally hoped for.

4. TRAC has demonstrated that the introduction of mobile learning technology can be feasible in Cambodia through a combination of safes, batteries for charging, and specialized protocols for usage. Plummeting prices have also made this intervention much more feasible than it was even two years ago. This experience should pave the way for further efforts on the part of the MoEYS to increase the utilization of mobile technology in Cambodian classrooms.

5. Rapid penetration of the Cambodian countryside with smart phones (due to plummeting prices) has made learning applications in Khmer a much more attractive strategy to improving out-of-school learning. However, there are few applications in Khmer designed for Cambodian children and requires increased investment by both donors and government.

2. Activity Description and Progress

2.1 Development of Reading Benchmark System

Intermediate Objective: (1) Teachers are able to systematically assess students and identify high-risk students (2) Increased levels of literacy in target schools

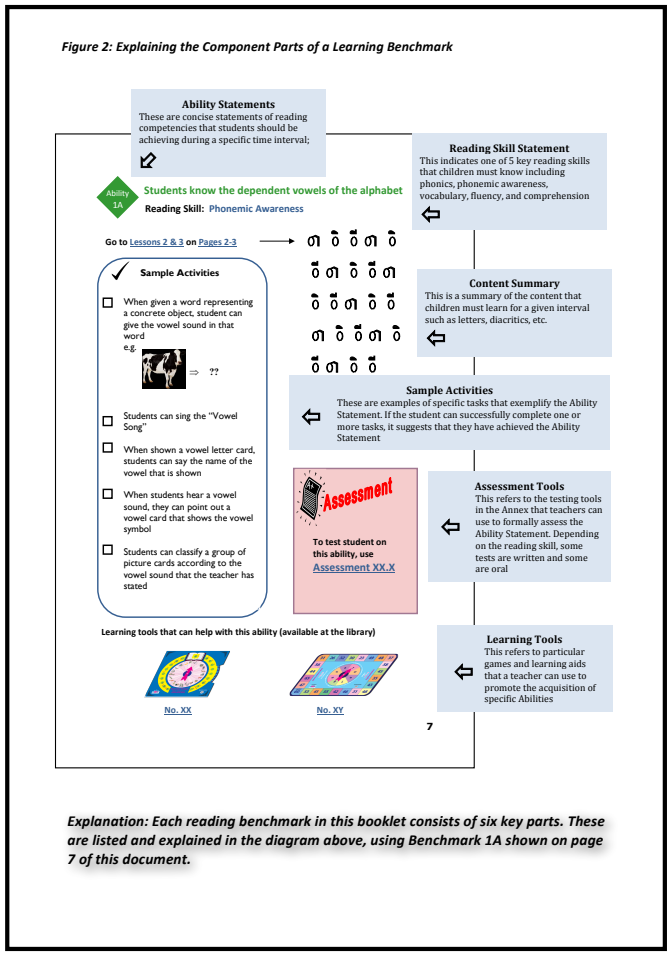
Activity Overview

The development of reading benchmarks proposed and implemented under TRAC is a core intervention that proved to be an essential foundational document to guide student assessment and teaching practice. The benchmark documents provide a rationalized framework describing reading and other language competencies that should be achieved in relation to the textbook and at specific times during the school year. These determinations were based on a content analysis of the new Khmer Language Curriculum and textbooks as well as international definitions of reading proficiency taking in the 5 key reading skills identified in a Reading Toolkit

developed by USAID.[1] TRAC completed the development of the Grade 1 Reading Benchmarks during Year 1 implementation and Grade 2 at the beginning of Year 2 implementation.

The Reading Benchmark Guidelines document for Grade 1 is divided into 9 intervals while the document for Grade 2 is divided into 8 intervals. Intervals take in fixed lesson sequences and a specific number of instructional hours based on determinations made in the MoEYS reading textbook. Each interval includes statements of Reading Abilities, associated Reading Skills (phonics, comprehension, etc.), Content Summaries, and Indicative Tasks that illustrate the stated competencies (see Figure 1). Each benchmark also includes references to specific assessment tools provided in the benchmark booklet as well as suggested learning tools and games designed to reinforce stated competencies.

Figure 2.1: Sample of a Benchmark (Grade 1)



Explanation: Each reading benchmark in this booklet consists of six key parts. These are listed and explained in the diagram above, using Benchmark 1A shown on page 7 of this document.

In developing benchmarks for Grade 2, the project found that Writing Skills comprised a much larger proportion of the Khmer Language Textbook than was true of the Grade 1 Textbook. Based on feedback from MoEYS advisers, it was decided to include 3 important writing skills (i.e., dictation, composition, and handwriting) in the Benchmark Document for Grade 2, requiring the project to refer to this booklet more appropriately as a Language Arts Benchmark document.

Each benchmark booklet starts with an introduction that explains the purpose of the document, how to use it, key features, proposed interventions to address children with reading problems, and protocols to manage a Rapid Reading Response system (RRR). There are also several annexes included in both documents to provide detailed information about student assessment and learning aids so that it becomes a useful resource book for teachers. For example, the annex includes a list of reading games, a description of m-learning curricula, interval-based test sheets for both written and oral assessment, tracking sheets for students with special learning needs, and a student score card.

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Reading (and writing) benchmarks for both Grades 1 and 2 were fully reviewed and revised during Year 2 implementation based on a process of piloting, stakeholder feedback, and in depth discussions with Technical Working Group members at national and subnational levels. On 25 August 2014, TRAC and MoEYS conducted a National Seminar in Kampong Cham Town with broad participation from all Ministry departments, POEs, development partners, and civil society organizations. During the seminar, the Minister of Education, who attended the event during its entirety (2 days), announced the formal adoption of the benchmark framework developed by TRAC, pending one final review by a special committee before printing for national distribution. This announcement constitutes a remarkable achievement for the project that

[1] These skills include (i) phonics; (ii) phonemic awareness; (iii) vocabulary; (iv) fluency; and (v) reading comprehension. See RTI (2009), *Early Grade Reading Assessment Toolkit,* Research Triangle Park, NC: USAID.

far exceeds the original expectations. Thus, the project has had a dramatic impact on curriculum design for the national reading curriculum in a very short period of time.

Performance Indicator 1: WV – PMP indicator At least 65% of teachers are using the benchmark system following standard implementation criteria by Yr 1 and 85% by year 2.

During the 3rd and 4th quarters, project personnel conducted tracking activities of teacher proficiency in the use of the Reading Benchmark documents at all grade levels. These assessments were based on a combination of observations, review of relevant documents (e.g., tests, score cards, etc.), and direct discussions with teachers to assess their understanding of the benchmark documents. The performance standard for general proficiency was achieved within a margin of 10% with 83.3% of assessed teachers scoring above 50% (the cut-off point for proficiency) on the standardized instrument designed for this purpose with a mean score of 79.3% (see Table 2.1). Mean scores for specific competency areas were generally high across the board but the highest scores occurred for the administration of testing activities, which is an area of particular focus for the project.

Table 2.1: Teacher Performance Scores in Using the Reading Benchmark System (Grades 1 and 2), Year 2

Competency Area	% Scoring above 50%	Mean Score
1. Knowledge of Project Documents and Tools	75.0%	77.1%
2. Testing Activities	100%	87.5%
3. Tracking Activities & Follow-up	75.0%	73.2%
Total	83.3%	79.3%
Indicator Achieved: Y/N	Yes, Indicator achieved within a margin of 10% with 83.3% of teachers scoring at or above a 50% minimum standard and an average mean score of 79.3% on a standardized scoring instrument.	

N=53

Performance Indicator 2: Number of reported children below standard benchmarks is reduced by 50% or more each year

Performance for this indicator is measured in two ways. One way concerns the change in student proficiency from the first interval to the last interval with particular focus on the magnitude in reduction of those students falling in the category of 'poor' (Method 1) The second way of measuring this indicator requires a comparison in the number of children falling into the category of 'poor' from Year 1 to Year 2 with a target of 50% reduction (Method 2).

For Grade 1 students tested during Year 2 implementation, the number of students scoring in the 'poor' category changed from 22% to only 4% or a change of 81.8% from Interval 1 to Interval 9, thereby achieving the indicator (Method 1). This compares with a 66.7% reduction in Year 1. However, the overall percentage of students who scored 'poor' across all intervals only declined from 17% to 11.2% year on year or a total decline of 34%. While this much of a reduction is highly positive, it nevertheless misses the desired performance standard reduction of 50% (see Table 2.2).

Table 2.2: Cumulative Change in Reading Performance by Content Interval from Year 1 to Year 2 (Grade 1)

Interval	1	2	3	4	5	6	7	8	9	Change from Interval 2 to 9[2]
	Change from Interval 2 to Interval 9 (Grade 1)									
Good (%)	--	37%	32%	34%	48%	44%	52%	53%	55%	
Satisfactory (%)	--	15%	13%	16%	17%	20%	18%	19%	18%	
Fair (%)	--	16%	17%	17%	15%	17%	12%	12%	11%	
Poor (%)	--	27%	32%	23%	14%	11%	10%	8%	9%	**66.7%**

[2] **Note:** the project was not able to implement Interval 1 in time for the new school year during Year 1 implementation.

Absence (%)	--	5%	7%	9%	6%	8%	8%	8%	7%		
Total Tested	***1162***										
	Cumulative Change across All Intervals (Grade 1) Year 1 Assessment (Baseline for Year 2 Comparison)										
Interval	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***Total***	***% Below Standard Benchmark***
Good	--	424	366	397	554	502	579	90	639	***3551***	
Satisfactory	--	175	146	180	192	225	205	606	203	***1932***	
Fair	--	187	196	199	177	197	130	222	129	***1437***	
Poor	--	313	365	269	162	123	108	137	105	**1582**	**17%**
Absence	--	31	80	107	66	96	90	94	77	***641***	
Total		**1132**	**1156**	**1156**	**1156**	**1149**	**1119**	**1157**	**1162**	**9143**	
	Cumulative Change across All Intervals (Grade 1) Year 2 Assessment										
Interval	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Change from Interval 1 to 9**	
Very Good (%)	17%	14%	12%	22%	10%	15%	21%	12%	13%		
Good	19%	24%	27%	17%	28%	29%	27%	28%	26%		
Satisfactory (%)	16%	20%	22%	20%	26%	26%	26%	25%	29%		
Fair (%)	19%	19%	21%	23%	23%	19%	16%	26%	24%		
Poor (%)	22%	16%	13%	14%	10%	9%	8%	5%	4%	***81.8%***	
Absence%	7%	7%	5%	4%	3%	2%	2%	4%	4%		
Total Tested	**1227**										
Interval	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***Total***	***% Below Standard Benchmark***
Very Good	208	178	147	266	259	178	258	146	160	**1800**	
Good	231	294	331	208	251	360	328	342	321	**2666**	
Satisfactory	192	247	269	247	322	315	319	305	359	**2575**	
Fair	237	237	253	285	236	232	200	324	292	**2296**	
Poor	269	190	163	169	133	113	94	64	50	**1245**	**11.2%**
Absence	95	89	65	52	26	29	28	46	45	**475**	
Total	**1232**	**1235**	**1228**	**1227**	**1227**	**1227**	**1227**	**1227**	**1227**	**11057**	
Indicator Achieved: Y/N	• Yes, Achieved for Interval 2 and 9 Comparison with a 66.7% decline in the number of students demonstrating substandard performance against agreed benchmarks • No, the number of children in Year 2 below the standard benchmark was 11.2% in comparison to the previous year's level of 17% or a decline of 34%, thereby missing the target of 50% reduction.										

With respect to this performance indicator for Grade 2, it is only possible to make a determination of performance by Method 1, as the Language Benchmarks for Grade 2 were not developed in time for Year 1 implementation, all available resources being focused on Grade 1 benchmark development at that time. Grade 2 benchmarks were developed during the summer vacation shortly before the start of the Year 2 academic year. In making a determination of change it is important to note that Intervals 1 to 3 comprise a review of content taught in Grade 1 with new content coming on line at Interval 4 onwards. This explains why the number of children scoring in the 'poor' category suddenly jumps from single digits to double digits. Thus, the project feels that the more relevant indication of change to consider is the one from Interval 4 to Interval 8. In this respect, assessments indicated that percentage of children scoring in the 'poor' category declilned from 13% to only 6% or a change of 53.8%, thereby achieving the indicator for Grade 2 (see Table 2.2).

Table 2.2: Cumulative Change in Reading Performance by Content Interval from Year 1 to Year 2 (Grade 2)

Interval	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Change from Interval 1 to 8**
	Change from Interval 1 to Interval 8 (Grade 2)								
Very Good (%)	17%	21%	17%	8%	10%	8%	8%	9%	
Good (%)	31%	27%	36%	28%	28%	24%	27%	23%	
Satisfactory (%)	22%	21%	17%	25%	26%	33%	32%	38%	

Fair (%)	12%	17%	18%	23%	24%	24%	24%	21%		
Poor (%)	9%	7%	7%	13%	9%	8%	7%	6%	**33.3% (Intervals 1 to 8) 53.8% (Intervals 4 to 8)**	
Absence (%)	8%	7%	5%	3%	3%	3%	2%	3%		
Total Tested	***1125***									
	Cumulative Change across All Intervals (Grade 2)- Year 2 Comparison									
Interval	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***Total***	***% Below Standard Benchmark***
Very Good	191	235	189	94	115	88	85	95	***1092***	
Good	348	299	403	310	310	266	302	264	***2502***	
Satisfactory	264	241	191	280	288	364	362	428	***2418***	
Fair	132	189	206	262	265	275	266	238	***1833***	
Poor	100	85	80	142	112	96	83	73	***771***	**9%**
Absence	93	79	56	37	35	36	27	27	***390***	
Total	**1128**	**1128**	**1125**	**1125**	**1125**	**1125**	**1125**	**1125**	**9006**	
Indicator Achieved: Y/N	• Achieved for a comparison of Interval 4 to 8 with a reduction of 53.8%. It should be noted in this regard that Intervals 1 to 3 comprise a repeat of content studied in Grade 1 with new content starting at Interval 4. Thus, the project has used a comparison of Interval 4 to 8 as the more relevant indication of change.									

Performance Indicator 3: WV-PMP indicator 8,000 (Year 1) and 20,000 (Year 2) standardized learning assessments supported (standard USAID indicator)

Using the Reading Benchmarks as a foundational document, TRAC has developed a significant body of tests linked with each interval sequence and the reading competencies included therein. These tests have been consistently administered by teachers participating in the project's 8 schools. During Year 2 implementation, a total of 24,000 tests were administered to participating children, thereby exceeding the required performance standard of 20,000 standardized learning assessments (see Table 2.3).

Table 2.3: Learning Assessment Sheet Provided to School

Learning Assessment Sheet by Interval	Amount Distributed for Grade 1	Amount Distributed for Grade 2	Total
Interval 1	960	1920	2880
Interval 2	1440	480	1920
Interval 3	1440	960	2400
Interval 4	1440	1920	3360
Interval 5	1440	1920	3360
Interval 6	960	1920	2880
Interval 7	480	1920	2400
Interval 8	1440	1920	3360
Interval 9	1440	--	1440
Total	**11,040**	**12,960**	**24,000**

Performance Indicator 4: WV-PMP indicator 41(Year 1) (64 Year 2) teachers/educators/ teaching assistants who successfully completed in-service training or receiving intensive coaching or mentoring with USG support

The project has a large number of stakeholders who receive capacity-building support as part of program implementation. This includes not only teachers (53) but also librarians, literacy coaches, school directors, and sub-national officials at provincial and district level. In total, 87 key stakeholders received in-service training by Year 2, thereby exceeding the target.

Table 2.4: Number Teachers/Educators Received Training

Province	Grade 1 Teacher		Grade 2 Teacher		Librarian		Literacy Coach		School Director		DOE/POE		All	
	Total	Fem	Total	Fem	Total	F	Total	F	Total	F	Total	F	Total	F
Kg Cham	19	15	19	13	9	8	6	2	6	2	5	0	64	40
Siem Riep	8	8	7	6	2	2	2	1	2	0	2	0	23	17
Total	**27**	**23**	**26**	**19**	**11**	**10**	**8**	**3**	**8**	**2**	**7**	**0**	**87**	**57**

2.2 Rapid Response System Development

Intermediate Objective: (1) Schools with RRS response systems report better reading achievement than schools that do not. (2) Development reading culture in schools and communities that motivates children to practice their literacy skills

Activity Overview

Using the reading benchmark documents developed at the beginning of the project as a foundation, the project continued to expand key interventions such as the Rapid Response System, which is a set of procedures designed to use continuous assessments to identify children with special needs. Once these children have been identified, their parents are notified and they receive a set of intensive interventions to strengthen reading skills based on the areas where they are weakest. These interventions are summarized in Box 1. With the completion of language achievement benchmarks for Grade 2, interventions pertaining to the RRS were expanded to include children at this grade level while continuing to assist a new cohort of students at Grade 1. In all, the RRS identified 369 children in need of special assistance and whose parents received a special score card alerting to them to the areas where they may be able to help their children better read. These parents are invited to borrow special learning aids from the library to use at home for this purpose.

Box 1: RRS Intervention Protocols

- Library-based Learning Games
- Classroom-based Learning Games
- Library-based M-learning
- Activities
- Extra books in library
- Issue Student Score Cards
- Peer Tutoring
- Parental Tutoring
- Parent-Literacy Coach Conferencing

Performance Indicator 5: Externally administered EGRA assessment indicates target schools perform better than control schools each year

During Year 2 implementation, project staff continued to monitor key learning impacts in terms of student acquisition of basic reading skills. As mentioned earlier, skill areas have been identified according to international standards and refer mainly to the five components of effective reading including (i) phonemic awareness; (ii) phonics; (iii) vocabulary and word recognition; (iv) fluency; and (v) reading comprehension. MoEYS has devised EGRA testing tools based on this framework with assistance from the World Bank and the project continues to rely on these tools for its own testing.

The testing program developed by the project involves comparisons between treatment schools and a group of control schools that have been matched in terms of demographic setting, school size, and other key characteristics. Assumptions of equivalence were validated at the beginning of the project by comparisons of mean scores in each school condition. In this regard, a t-test of these mean scores indicated that differences in scores were not statistically significant. Baseline scores apply to the cohort of students in both treatment and control schools before the implementation of any interventions (known as Year 0). This cohort of students is known as Cohort$_0$. Subsequent comparisons in test scores were made of students receiving interventions at the end of Year 1for a new cohort of students (Cohort$_1$) and again at the end of Year 2 for yet another new cohort (Cohort$_2$).

The project also made within group comparisons to determine whether subsequent cohorts had scored higher than the cohorts in Year 0 in both the treatment and control condition.

Post-test results for both Years 1 and 2 for Grade 1 students are presented in Table 2.5 below. As noted earlier, baseline test results between treatment conditions are not significantly different, thereby validating assumptions of equivalence (i.e., 15.9% versus 14.9%). However, the reading test scores for children in treatment schools at the end of Year 1 after one full

year of interventions registered a statistically significant difference when compared to children in control schools (19.7% versus 13.3%). At the same time, children in control schools at the end of Year 1 had about the same level of performance as children in $Cohort_0$ (i.e., the difference in scores was not statistically significant). In Year 2, a new cohort of students ($Cohort_2$) also continued to perform significantly better than the baseline cohort within the treatment condition with a mean score of 21.8% versus 15.9% though the difference in score with $Cohort_1$ was not statistically significant. Once again, $Cohort_2$ students in the treatment condition outperformed those in the control condition (21.8% versus 6.9%) and this difference was statistically significant. However, it was also noted that performance of control students in Year 2 declined below the baseline and that this difference was statistically significant. The project is investigating whether there were any major situational changes in control schools (e.g., retirement of teachers or school directors, damaged buildings, etc.) that may have caused such a significant decline from baseline levels.

Table 2.5: Summary of Changes in Reading Test Scores between and within Treatment Conditions for Grade 1 Students, Years 0, 1, and 2

Treatment Condition	Baseline Test Score ($Cohort_0$)		Post-Test Score $Cohort_1$	Significant Difference at p=.05 (from baseline)		Post-Test Score $Cohort_2$	Significant Difference at p=.05 (from baseline)
Treatment Schools N_0=192 N_1=176 N_2=187	15.9%		19.7%	Yes		21.8%	Yes
Control Schools N_0=92 N_1=98 N_2=79	14.9%		13.3%	No		6.9%	Yes
Difference Significant at p=.05 (from baseline)	No		Yes	--		Yes	--

For Grade 2, the project has not included any analysis of changes in test scores since it was not possible to affirm equivalence between Grade 2 students in treatment and control schools. That is, Grade 2 students in treatment schools were formerly receiving project interventions in Year 1 so that they already had a head start on Grade 2 students in control schools. Therefore, any difference in test scores could not necessarily be attributed to effective interventions at Grade 2, since such changes could also have been due to the stronger reading skills that they had acquired from project interventions in Grade 1.

Performance Indicator 6: Internal language scores in target schools increase from baseline levels each year.

This performance indicator was devised to provide an alternative means of tracking student acquisition of basic reading competencies, in this case using the internal scores that teachers assign to students for purposes of promotional decision-making. To make a determination of the status of this indicator, project personnel requested schools to provide the official marking books of all Grade 1 and 2 teachers in target schools in order to compile students' reading scores since the beginning of the year. Based on this review of internal student marks for reading, performance scores have increased from baseline levels for both Grades 1 and 2. During Year 2, internal mean scores for all children increased from 5.41 at baseline to 6.06 while for Grade 2, the mean score increased from 5.66 to 6.27. In both cases, the change is statistically significant at p=.05. At the same time, the number of Grade 1 children now passing Reading has increased from 71.2% at baseline to 87.3% while at Grade 2, there was an increase from 80.1% to 86.6%. These trends concur with the findings reported earlier with respect to changes in externally administered EGRA scores for Grade 1, thereby providing some degree of concurrent validity. Thus, based on the criteria of a significant increase in mean score from

baseline, this performance indicator has been successfully achieved for both Grades 1 and 2 (see Tables 2.6 and 2.7).

Table 2.6: Change in Internal Language Scores from Baseline (Treatment Condition Only)

Time Period	Percentage of Children Passing	Mean Score (Scale is 1-10)	Change Description
Grade 1			
At Baseline (N=1,161)	71.2%	5.41	• Mean scores increased from baseline levels in both Years 1 and 2. In Year 1, mean scores increased from 5.41 to 5.97 and continued to climb to 6.06 in Year 2. The percentage passing also increased from 71.2% at baseline to 87.3% in Year 2.
At End of Year 1 (N=1,146)	81.8%	5.97	
At End of Year 2 (N=1,227)	87.3%	6.06	
Indicator Achieved: Y/N	Yes, Indicator achieved in terms of change in mean score levels (as well as the total number of children passing		

Table 2.7: Change in Internal Language Scores from Baseline (Treatment Condition Only)

Time Period	Percentage of Children Passing	Mean Score (Scale is 1-10)	Change Description
Grade 2			
At Baseline (N=11,46)	80.6%	5.66	• As was observed for Grade 1, mean scores increased from baseline levels, moving from 5.66 to 6.27. The percentage passing also increased from 80.6% at baseline to 86.6% in Year 2.
At End of Year 2 (N=1,125)	86.6%	6.27	
Indicator Achieved: Y/N	Yes, Indicator achieved in terms of change in mean score levels (as well as the total number of children passing		

Performance Indicator 7: WV - PMP indicator 50% (Year 1), 75% (Year 2) of teachers utilizing the Rapid Response System

Monitoring activities pertaining to the use of RRS protocols were guided by a standardized tool that focused on general understanding of the RRS, the regularity of testing activities (i.e., using interval tests in the Reading Benchmark booklets), and tracking activities such as the use of special student score cards for those children who are struggling in particular areas. Based on this review, teachers demonstrated very high proficiency in their understanding and usage of the RRS with 94.0% of those surveyed scoring above the cut-off for minimum proficiency (50%) and a mean score of 81.4%, thereby achieving the stated performance indicator (see Table 2.8).

Table 2.8: Assessment Results for Teachers Utilizing the RRS

Competency Area	% Scoring above 50%	Mean Score
Knowledge of RRS Protocol; Testing Activities; and Tracking and Follow up Activities	94.0%	81.4%

N=53

Performance Indicator 8: WV – PMP indicator 1,150 (Year 1) and 2,400 (Year 2) learners receiving reading interventions at the primary level (50% girls)

Based on a review of enrollment figures from all 8 target schools, a total of 2,352 children in both Grades 1 and 2 benefited from project interventions of whom 1,168 or 50.0% were girls, thereby achieving the stated performance indicator within a margin of 10% (see Table 2.8).

Table 2.8: Total Enrolment of Grade 1 and 2 Received Interventions

Province	Primary School	Total	Girl (%)	Total	Girl (%)	Total	Girl (%)

		Grade 1		Grade 2			
Kampong Cham	Prey Totoeng	186	96 (52%)	186	108 (58%)	372	204 (55%)
	Bun Rany HS Kor	227	113 (50%)	221	100 (45%)	448	213 (48%)
	Oraing Ov	149	63 (42%)	120	58 (48%)	269	121 (45%)
	Korng Chey	86	46 (53%)	93	57 (61%)	179	103 (58%)
	Trapaing Russey	180	79 (44%)	150	63 (42%)	330	142 (43%)
	Hun Sen Aknuwat	65	31 (48%)	47	17 (36%)	112	48 (43%)
Siem Riep	Hun Sen Kom Rou	207	108 (52%)	180	101(56%)	387	209 (54%)
	Raksmey Rath	127	67 (53%)	128	61 (48%)	255	128 (50%)
Total	**8**	**1,227**	**603 (49%)**	**1,125**	**565 (50%)**	**2,352**	**1,168 (50%)**

2.3 Literacy Coaches in Schools

Intermediate Objective: (1) Trained literacy coaches monitor and support the TRAC interventions in schools and communities. (2) Literacy coaches organize training for parents, librarians and teachers on literacy improvement techniques.

Activity Overview

The introduction of Literacy Coaches in target schools has been a central feature of the TRAC Project. Literacy Coaches play the role of animator for all literacy activities in school whether these are the administration of literacy tests, parent conferences, implementation of RRS protocols, or dissemination of Literacy Toolkit materials. The establishment of Literacy Coaches is a form of institution-building that helps to give real form to the Ministry's recent efforts to increase the priority on early grade literacy. The implementation of this intervention under TRAC has so far demonstrated the feasibility of such efforts and argues for wider replication should resources for additional recruitment and capacity-building be available.

During Year 2 implementation, the project continued to provide capacity building and monitoring support to Literacy Coaches including their orientation to the new language benchmarks for Grade 2 and the corresponding efforts to expand standardized interventions such as the RRS to this grade level. There has been good continuity in the implementation of this intervention with none of those individuals selected for this position backing out or moving to another school, even after two years of implementation.

Performance Indicator 9: Each school has a trained literacy coach

Each of the eight schools participating in the project have a Literacy Coach who has been recruited based on fixed criteria and trained continuously since project start-up, as per *Performance Indicator 9*. These individuals tend to be Deputy School Directors (responsible for technical matters in the school) but also include Teachers, Office Staff, or a community member (see Table 2.9).

Table 2.9: Number of Trained Literacy Coaches

Province	Primary School	Trained Literacy Coach	Remarks (Selected from)
Kampong Cham	Prey Totoeng	1	Management staff in the school office
	Bun Rany Hun Sen Kor	1	Deputy Director
	Oraing Ov	1	Grade 5 Teacher
	Korng Chey	1	Community Member
	Trapaing Russey	1	Deputy Director
	Hun Sen Anuwat	1	Deputy Director
Siem Riep	Hun Sen Kom Rou	1	Deputy Director
	Raksmey Rath	1	Deputy Director
	Total	**8**	

Performance Indicator 10: Literacy coach report training and monitoring activities on a regular basis.

Literacy Coaches have kept extremely detailed records of their activities during the school year including the organization of peer tutoring, meeting with Children's Councils to promote literacy, parent conferencing, and many other activities. Project staff have compiled these records and reported that there were in all 9,284 discrete instances of assistance provided to Grade 1 and 2 children during Year 2 implementation, more than half of which were directed at female students. The most commonly reported activities involved peer tutoring (21% of all activities), organizing student access to tablets and M-learning games (17%), and working with Children's Councils (13%) (see Table 2.10). Based on a review of this detailed record of activity, the project, therefore, concludes that this performance indicator has also been achieved.

Table 2.10: Number of Key Activities Coordinated by Literacy Coaches, Year 2

Key Activities Coordinated By Literacy Coaches	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Female
1. Peer tutoring: Grade 5 & 6 students help teach Grade 1 & 2 children at break time	88	135	223	198	201	189	255	332	363	**1,984 (21%)**	1,058
2. Children Councils help to teach children during free time	58	141	133	158	127	155	98	197	192	**1,259 (13%)**	636
3. Parents help to teach their children at library (30mn/week)	18	31	36	38	30	23	6	29	39	**250 (2%)**	194
4. Parents receive home visits to discuss how they can help their children overcome reading difficulties	7	21	25	20	23	17	8	15	16	**152 (2%)**	127
5. Parents borrow reading games from the library	30	83	93	115	118	115	93	199	146	**992 (11%)**	751
6. Grade 1 teachers help children with reading problems	82	174	195	62	70	77	77	133	110	**980 (11%)**	462
7. Grade 2 teachers help children with reading problems	n/a	n/a	n/a	73	77	73	7	8	12	**250 (2%)**	131
8. Librarians help children with reading problems	15	46	81	70	88	89	53	93	90	**625 (7%)**	384
9. Literacy Coaches help children with reading problems	19	59	77	72	84	65	51	116	110	**653 (7%)**	358
10. Students use tablets in library	n/a	n/a	n/a	205	263	222	183	325	334	**1,532 (17%)**	982
11. Literacy Coaches conduct meetings with parents	9	14	99	31	61	20	29	220	124	**607 (7%)**	482
Total	**Total discrete number helping activities for children**									**9,284**	**5,565**

Performance Indicator 11: Literacy coaches using activity protocols according to RRS implementation criteria. WV – PMP indicator; 50% in year 1, 75% in year 2

A standardized tool has been developed to assess the knowledge and understanding of Literacy Coaches regarding key project documents (such as reading benchmarks) and tools (e.g., continuous assessment sheets) as well as activity implementation. Based on the administration of this assessment instrument and a review of the activity records kept by Literacy Coaches dis-

cussed in Performance Indicator 10 above, the project found across board compliance with RRS protocols with all coaches demonstrating a minimum score on the assessment and the overall mean score reaching 92%, thereby achieving the stated indicator (see Table 2.11).

Table 2.11: Literacy Coach Performance Scores

Competency Area	% Scoring above 50%	Mean Score
1. Knowledge of Project Documents and Tools	100%	91.6%
2. Performance of In-school Activities	100%	92.3%
Total	**100%**	**92%**
Indicator Achieved: Y/N	Yes, Indicator achieved with 100% of literacy Coaches scoring at or above a 50% minimum standard and an average mean score of 92.3% on a standardized scoring instrument.	

N=8

2.4 Promoting Parental Engagement

Intermediate Objective: Increased parental engagement in reading and other subjects.

Activity Overview

The TRAC Project has sought to move investments in early grade literacy beyond the school into local communities. This has meant direct outreach to parents, particularly those parents with children who have special needs. The project has found that these efforts have been constrained by the 'time poor' situation of many parents, many of whom are poor with little to spend on their children's education. Nevertheless, Literacy Coaches and teachers have tried to encourage parents to come to the school for conferencing when the need arises, to borrow reading games from the library, and respond to score cards initiated under RRS protocols. While Literacy Coaches have reported moderate progress against the performance indicators identified for this objective, it has been one of the most challenging for the project to achieve.

Performance Indicator 12: Literacy Coaches report satisfactory responses from a majority of parents

One of the ways that parental engagement in early grade literacy has been measured is through an assessment interview with Literacy Coaches regarding the occurrence of various activities designed to promote parental outreach. A standardized tool is used for this assessment (see Sample Items in Box 2). While all coaches reported compliance with minimum expectations, the mean score across all desired activities for all coaches was only 67.7%, demonstrating the challenges of achieving increased parental engagement. Nevertheless, this indicator has been reported as achieved, based on a 50% cut-off point (see Table 2.12).

Box 2: Sample Checklist Items on Literacy Coach Interview Tool

- The Literacy Coach organizes workshops and informative meetings for parents and other community members.
- The Literacy Coach organizes private conferences with individual parents to map out strategies of assisting their children to read (in-school).
- The Literacy Coach visits parents at home to discuss how to help children with special reading problems (at home).

Table 2.12: Literacy Coach Performance Scores on Community Support

Competency Area	% Scoring above 50%	Mean Score
Community Support Activities	**100%**	**67.7%**
Indicator Achieved: Y/N	Yes, assessments of Literacy Coaches indicated positive engagement from parents in the implementation of Community Support Activities with a mean score of 67.7% on Community Support Activities Implementation and 100% of those assessed scoring at or above 50%.	

N=8

Performance Indicator 13: Interviewed parents in a sample report improved parental engagement. WV – PMP indicator (30% in year 1, 50% in year 2)

Box 3: Sample Questions on Parental Survey

- What is your opinion about the quality of reading instruction at your child's school?
- Overall, how satisfied are you with the progress that your child is making to learn how to read?
- How useful do you find meeting with the Literacy Coach at your school?
- How would you compare your level of engagement in teaching your child to read? (e.g., Much better than before, same as before, etc.)
- Have you ever attended special, one-on-one meetings at your child's school about their reading ability?

An assessment of parental engagement was conducted during the last quarter of the school year to determine the effectiveness of outreach activities and validate viewpoints expressed by Literacy Coaches. Parental surveys were conducted among a randomly selected sample of those whose children were identified as having special needs. A total of 70 parents were sampled in this way across the 8 schools. Parental interviews focused on perceptions of the school's ability to teach reading effectively and their own level of engagement. A sampling of questions is provided in Box 3. These surveys indicated that parents' perceptions of the school's ability to teacher literacy effectively have improved greatly with 85.7% of those interviewed scoring above a 50% cut-off point on this section of the interview and an overall mean score of 73%, a very good outcome. However, when describing their own level of engagement, scores were lower though within an acceptable range. In this regard, 61% scored above the 50% cut-off point with a mean score of 64.7% across all respondents. Overall, 73.3% of parents scored over the 50% cut-off point across all sections of the interview, thereby achieving the performance standard (see Table 2.13).

Table 2.13: Parental Engagement Scores

Competency Area	% Scoring above 50%	Mean Score
1. Perception of School's Ability to Teach Reading	85.7%	73%
2. Level of Parental Engagement	61.0%	64.7%
Total	**73.3%**	**68.8%**
Indicator Achieved: Y/N	Yes, achieved; parents' engagement scores indicated that 73.3% of those surveyed scored above the 50% cut-off point with a mean score of 68.8% across all respondents.	

N=70

Performance Indicator 14: Parents will visit the school at least once every six weeks to borrow material from the reading toolkit to use at home.

Parental surveys also assessed the frequency of parental visits to target schools to borrow literacy enhancement materials (from the Literacy Toolkits provided to each school) to use with their children at home. Parental responses were encouraging with more than two-thirds indicating that they borrowed materials at least once a month or more. Twenty-nine percent of respondents indicated that they visited the school frequently for such purposes while 38% indicated that they did so at least once a month. Only about 33% indicated that they were rarely able to do so mainly due to time constraints and their jobs. Overall, 74.2% of surveyed parents scored above the 50% cut-off point, thereby achieving the performance indicator (see Table 2.14).

Table 2.14: Assessment Results of Parents Borrowing Materials from Schools

Question	Yes, frequently (once a week or more)	Yes, sometimes (once a month)	Rarely (Once or twice a year)	Never
Parents visit the school at least once every six weeks to borrow materials from the reading toolkit to use at home.	16 (29%)	21 (38.1%)	18 (32.7%)	**0%**
	% Scoring above 50%	**Mean Score**		
Total Score	**74.2%**	**51.4%**		
Indicator Achieved: Y/N	Yes, Achieved with 74.2% of parents scoring over the 50% cut-off point required for compliance with this performance standard.			

N=70

2.5 M-learning Development

Intermediate Objective: (1) Utilizations of M-learning application contributes to higher level of literacy in targeted schools. (2) Students and parents will feel motivated and this will foster a culture reading at home and in schools

Activity Overview

The development of a literacy app linked to the new literacy curriculum established by Ministry is one of the key innovations of the TRAC Project. Although some private developers have developed literacy apps that loosely touch on basic literacy competencies in Khmer, none have done so as systematically as the TRAC app, based as it is on the new national reading curriculum (using the reading benchmarks). The development of the app in collaboration with Educational Technology for Development (ET4D), a US-based organization, however, took longer than anticipated and has gone through several iterations to make it compatible with the most recent versions of the Android operating system and increase the resolution of its graphics. As a result, the app has only been introduced systematically to schools during the current academic year (with preliminary piloting at the end of the previous academic year). Because the first three intervals of the Grade 2 Language Textbook review lessons from Grade 1, the app has significant applications to children studying in both Grades 1 and 2, and has been used accordingly.

Because of the large investment in tablets to make the literacy app accessible in schools,[3] the project has sought to ensure access and maintenance by developing explicit protocols about the storage of the tablets (safes have been distributed to all schools), the frequency and methods of charging them, and orientations for students and teachers about their use. Students using the tablets each have their own account so that it is possible to track progress through the various games and exercises. Librarians help the students to log into their accounts each time that they use a tablet. The project has also undertaken outreach to parents to help them to use the literacy app either at the library or by installing the application on their own smartphones (e.g., during Open House Days), should they have one. Project personnel have reported that 38 parents have downloaded the app onto their smart phones during the school year. This number has been constrained by the fact that the version of the Android operating system initially used by the app was not compatible with the most recent version of Android most widely used in Cambodia. This problem was rectified during the later stages of the project so that there is now a high level of compatibility between the app and the most commonly used versions of Android. The project has also moved to make the app available on *Google Play* to further increase its reach to as many parents as possible.

Performance Indicator 15: A majority of interviewed parents in a sample report using the M-learning application to increase their knowledge of literacy education, and assess their children.

During the parental surveys described above, the project also fielded questions to parents about their knowledge of the literacy application available at the school and their access to it while visiting the school. Once again, response rates were encouraging with about 70% of those responding indicating that they have used the app with their children at least once a month or more. About a fifth said that they use the app frequently (once a week or more). Only about a third reported that they rarely used the application (see Table 2.15). Nevertheless, it should be noted that although 77% of those interviewed scored over the 50% cut-off point for compliance with this performance standard, the mean score across all questions on this topic was rather low at 48%.

[3] A total of 20 tablets were distributed to each of the target schools in the project.

Table 2.15: Assessment Results of Parents Using M-learning

Question	Yes, frequently (once a week or more)	Yes, sometimes (once a month)	Rarely (Once or twice a year)	Never
Parents let their child play electronic games about reading on phones while at home and library.	11 (20.7%)	26 (49%)	16 (30.1%)	0%
	% Scoring above 50%	**Mean Score**		
Total Score	**77.1%**	**48.1%**		
Indicator Achieved: Y/N	Yes, achieved with 77.1% of parents scoring over the 50% cut-off point required for compliance with this performance standard.			

N=70

Performance Indicator 16: WV – PMP indicator 8 schools are using Information Communication and Technology due to USG support (8 schools x 20 devices) (Year 1 and 2 target)

As noted above, this indicator has been fully achieved with the distribution of 160 mobile devices (and accompanying furniture and safes for storage) to the 8 target schools participating in the project (see Table 2.16). Teachers, Librarians, and Literacy Coaches have all been trained in the application of user protocols to ensure access to the devices and high levels of care. User surveys have indicated relatively high rates of usage of the literacy app developed specifically for the project and installed on the devices with 70% of those parents surveyed indicating that they use the devices with their children at least once a month or more. In addition, the devices are used on a regular basis by children experiencing special problems in reading achievement as per the protocols established in a Rapid Response System to address the needs of these children.

Table 2.16: Number of Tablets Distributed to Target Schools

Province	Primary School	Number of Tablets	Portable Table	Metal Safe
Kampong Cham	Prey Totoeng	20	6	1
	Bun Rany Hun Sen Kor	20	6	1
	Oraing Ov	20	6	1
	Korng Chey	20	6	1
	Trapaing Russey	20	6	1
	Hun Sen Aknuwat	20	6	1
Siem Riep	Hun Sen Kom Rou	20	6	1
	Raksmey Rath	20	6	1
	Total	**160**	**48**	**8**

Performance Indicator 17: M-learning game scores correlate to student benchmark scores

The project was not able to comply with reporting on this indicator due to the developer's configuration of the scoring system on the literacy app, which focuses primarily on frequency of attempts to achieve proficiency on a particular competency rather than proficiency itself. That is, a child who achieves proficiency on a game-task after only one attempt would be scored '1' while a child who required 10 attempts would be scored as '10.' Thus, tests of reading proficiency based on reading benchmarks would not correlate with Literacy App scores since each are measuring something quite different. This problem was due to a misunderstanding between the project and Education Technology 4 Development who developed the app platform. More recent versions of the literacy app platform developed by ET4D for other languages now have a special extension called *Mobito* that has been shown to demonstrate a high correlation between literacy app scores and EGRA test scores.

Performance Indicator 18: Implemented applications meet standardized criteria for operation

A review of software applications developed by the project has found general compliance with this performance standard. In this regard, the implemented software meets several criteria for functional operation, since every component of the software has been tried and tested before being installed on the mobile devices distributed to schools. The various components of the software tested pertain to the following elements:

- Curricular correspondence
- Database content (word list)
- Problem sets for various activities
- Stories
- Sound learning

Each of the software components followed a review and quality control process that was administered by ET4D. ET4D used a management software called *Assembla* for this purpose. Each element of functionality, including the content of each lesson, was tested and approved accordingly. Originally, 227 tickets were issued to follow each individual component of the software to make sure that they met the quality criteria before implementation in schools and submission to *Google Play*. Based on this review, the project has determined that it has achieved this performance standard.

2.6 Development of Reading Toolkit

Intermediate Objective: (1) Use of the creative literacy tools in the Reading Toolkit contributes to higher levels of literacy. (2) Teachers and parents are provided with easy to use material that directly links with areas in which students can use remedial teaching.

Activity Overview

Figure 2.2: New literacy toolkit materials on synonyms and antonyms

During Year 2 implementation, the project worked closely with *Thunthean Seksa* (TTS), which is a closely allied social enterprise recently launched by KAPE that focuses on the development of creative teaching and learning aids for schools. TTS has been responsible for the development of the Literacy Toolkit (based on project specifications), which is now being used in all schools. The toolkit is based on specifications outlined in the reading benchmarks and so is closely linked to the national reading curriculum. With the completion of benchmarks for Grade 2, TTS has moved forward with efforts to expand the number of games and learning aids accordingly. This includes new games on synonyms and antonyms (see Figure 2.2), which will now supplement the original toolkit materials produced for Grade 1 during Year 1 implementation. Expanded Literacy toolkits are provided to the library as well as classroom teachers so that they may be used by children during the library break or borrowed by parents to use at home. TTS has also been advocating for official approval of toolkit materials by the Ministry in order to make it easier to sell these materials to other schools. Based on these advocacy efforts, MoEYS has so far approved 21 learning aids with additional approvals in the pipeline. These efforts will ensure the sustained availability of these materials to schools nationally after the closure of the project.

Performance Indicator 19: Spot checks of the toolkit materials usage correspond to the reported student needs.

As was done last year, a sample of randomly selected students comprising about 5% of the

student population were questioned by project personnel about their access to reading materials in the library and classroom. The administration of this assessment tool found moderate to high frequency of usage and access to both learning games and mobile devices stored in the school library. The standardized formative reading tests included in the Reading Benchmark booklets were particularly used with very high frequency with about 73% of students reporting very high rates of testing. The vast majority of students reported access to at least 3 or 4 literacy games during the year with many reporting access to 5 or more. In terms of access to the literacy app, most children (60.5%) reported using it in the school library with a sizable number (about a third) also using it at home (see Table 2.17). Overall, 87.9% of those children surveyed registered scores exceeding the cut-off for compliance with this performance standard (i.e., 50%) with an overall mean score on all survey items of 69%.

Table 2.17: Student Access to Reading Resources Scores (Sample Questions)

Question	Responses (%)				
Have you ever played games at your school about reading?	Yes, a lot	Sometimes a lot, Sometimes a little	A little bit	No/Don't know	
	57.3%	25.0%	10.5%	0.00%	
Look at the reading games in front of you [Interviewer should display games from Reading Toolkit]. Can you show me the games that you have ever played?	8 games or more	5 to 7 games	3 o 4 games	1 to 2 games	No games/ Don't know
	9.7%	32.3%	50.0%	0.0%	0.0%
Where can you find the tablet/phone games to play (check [√] all that apply) ?	In the Library	In the Classroom	At home		
	60.5%	11.3%	28.2%	0.0%	0.0%
Have you ever taken tests on reading in your class like this (display a copy of one of the sample tests from the Benchmark Booklet)?	Yes, a lot	Sometimes a lot, Sometimes a little	A little bit	No/Don't know	
	72.6%	19.8%	8.1%	0.0%	0.0%
	% Scoring above 50%	**Mean Score**			
Total Score	**87.9%**	**69.0%**			
Indicator Achieved: Y/N	Yes, assessments of children's engagement in reading activities registered a mean score of 69.0% on a standardized assessment instrument with 87.9% of those surveyed scoring over a 50% minimum score.				

N=124

Performance Indicator 20: WV – PMP indicator 2000 (Year 1) 2060 (Year 2) of textbooks and other teaching and learning materials provided with USG assistance

The project has distributed several kinds of texts and learning materials to target schools as per this performance standard. This includes user-friendly editions of the Reading Benchmark Booklet for Grades 1 and 2 as well as hundreds of learning games that were included in Literacy Toolkits distributed to all schools. In all, the project distributed 1,908 booklets and learning materials to all schools during the school year, thereby achieving the stated performance standard (see Table 2.18).

Table 2.18: Number of Textbook and other Teaching/Learning Materials Provided to Schools in Year 2

Province	Reading Benchmark Grade 1 (booklet)	Reading Benchmark Grade 2 (booklet)	Reading Games for Toolkits	Total Materials
All provinces	200 (Color)	200 (Color) 70 (Black and White)	1,438	

Total	**200**	**270**	**1,438**	**1,908**

2.7 Summary of Progress toward Performance Indicators for Year 2

The Work Plan approved by World Vision in October 2012 included 11 expected results (Intermediate Objectives) and 20 performance indicators to be achieved within year 2 implementation. 18 of 20 indicators or 90% of those approved have been fully achieved this year. Indicator 2 was partially achieved with full compliance for Grade 2 but only partial compliance for Grade 1. Indicator 17 was not achieved due a flaw in the design of the literacy app that prevented the necessary focus on proficiency to make comparisons with EGRA scores possible. A full summary of indicators achieved or not achieved is provided in table 2.19 below.

Table 2.19: Summary of Targets and Actual Performance Indicators

Intermediate Objective	Performance Indicator *(Annual Target only)*	Current Status
Development of Reading Benchmark System		
• Teachers are able to systematically assess students and identify high-risk students • Increased levels of literacy in target schools	1. WV – PMP indicator At least 65% of teachers are using the benchmark system following standard implementation criteria by Year 1 and 85% by Year 2.	• Indicator achieved within a margin of 10% with 83.3% of teachers scoring at or above a 50% minimum standard and an average mean score of 79.3% on a standardized scoring instrument.
	2. Number of reported children below standard benchmarks is reduced by 50% or more each year	• ***Grade 1:*** • This indicator was partially achieved at Grade 1: • Indicator Achieved for Interval 2 and 9 Comparison with a 66.7% decline in the number of students demonstrating substandard performance against agreed benchmarks • Indicator not achieved in Year 2 with a reported reduction of only 11.2% among children scoring below the standard benchmark. Given that there were 17% of children scoring below the standard last year, the target for this year would have been 8.5% (or a 50% reduction). Thus a reduction to only 11.2% while positive missed the 50% target. • ***Grade 2:*** • Indicator achieved for a comparison of Interval 4 to 8 with a reduction of 53.8%. It should be noted in this regard that Intervals 1 to 3 comprise a repeat of content studied in Grade 1 with new content starting at Interval 4. Thus, the project has used a comparison of Interval 4 to 8 as the more relevant indication of change.
	3. WV-PMP indicator 8000 (Year 1) and 20,000 (Year 2) standardized learning assessments supported (standard USAID indicator)	• Achieved during Year 2 implementation with a total of 24,000 tests administered to participating children, thereby exceeding the required performance standard of 20,000 standardized learning assessments.
	4. WV-PMP Indicator 41(Year 1) (64 Year 2) teachers/educators / teaching assistants who successfully completed in-service training or received intensive coaching or mentoring with USG support	• Achieved with 87 stakeholders completing in-service training or intensive coaching.
Rapid Response System Development		
• Schools with RRS response systems report better reading achievements than schools	5. Externally administered EGRA assessment indicates target schools perform better than control schools each year	• Indicator achieved. Reading test scores for children in treatment schools at the end of Year 1 after one full year of interventions registered a statistically significant difference when compared to children in control schools (19.7% versus

Intermediate Objective	Performance Indicator *(Annual Target only)*	Current Status
that do not. • Development reading culture in schools and communities that motivates children to practice their literacy skills		13.3%). At the same time, children in control schools at the end of Year 1 had about the same level of performance as children in $Cohort_0$ (i.e., the difference in scores was not statistically significant). In Year 2, a new cohort of students ($Cohort_2$) also continued to perform significantly better than the baseline cohort within the treatment condition with a mean score of 21.8% versus 15.9% though the difference in score with $Cohort_1$ was not statistically significant. Once again, $Cohort_2$ students in the treatment condition outperformed those in the control condition (21.8% versus 6.9%) and this difference was statistically significant.
	6. Internal language scores in target schools increase from baseline levels each year.	• Indicator achieved in terms of change in mean score levels (as well as the total number of children passing for both Grades 1 and 2. ***Grade 1:*** • Mean scores increased from baseline levels in both Years 1 and 2. In Year 1, mean scores increased from 5.41 to 5.97 and continued to climb to 6.06 in Year 2. The percentage passing also increased from 71.2% at baseline to 87.3% in Year 2. ***Grade 2:*** • As was observed for Grade 1, mean scores increased from baseline levels, m oving from 5.66 to 6.27. The percentage passing also increased from 80.6% at baseline to 86.6% in Year 2.
	7. WV - PMP indicator 50% (Year 1), 75% (Year 2) of teachers are utilizing the Rapid Response System	• Indicator achieved with 94.0% of those surveyed scoring above the cut-off for minimum proficiency (50%) and a mean score of 81.4%, thereby achieving the stated performance indicator.
	8. WV – PMP indicator 1,150 (Year 1) and 2,400 (Year 2) learners are receiving reading interventions at the primary level (50% girls).	• Indicator achieved with a total of 2,352 children in both Grades 1 and 2 benefiting from project interventions of whom 1,168 or 50.0% were girls, thereby achieving the stated performance indicator within a margin of 10%.
Literacy Coaches in Schools		
• Trained literacy coaches monitor and support the TRAC interventions in schools and communities. • Literacy coaches organize training for parents, librarians and teachers on literacy improvement techniques.	9. Each school has a trained literacy coach.	• Indicator achieved with each of the eight schools participating in the project in possession of a Literacy Coach who has been recruited based on fixed criteria and trained continuously since project start-up.
	10. Literacy coaches report training and monitoring activities on a regular basis.	• Indicator achieved with Literacy Coaches reporting that there were in all 9,284 discrete instances of assistance provided to Grade 1 and 2 children during Year 2 implementation, more than half of which were directed at female students. The most commonly reported activities involved peer tutoring (21% of all activities), organizing student access to tablets and M-learning games (17%), and working with Children's Councils (13%) (see Table 2.10). Based on a review of this detailed record of activity, the project, therefore, concludes that this performance indicator has also been achieved.
	11. Literacy coaches are using activity protocols according to RRS implementation criteria. WV – PMP indicator; 50% in Year 1,	• Indicator achieved with 100% of literacy Coaches scoring at or above a 50% minimum standard and an average mean score of 92.3% on a standardized scoring instrument.

Intermediate Objective	Performance Indicator *(Annual Target only)*	Current Status
	75% in Year 2.	
Promoting Parental Engagement		
• Increased parental engagement in reading and other subjects.	12. Literacy Coaches report satisfactory responses from a majority of parents (with regards to their engagement in their children's literacy achievement).	• Indicator achieved with assessments by Literacy Coaches indicating a mean score of 67.7% on Community Support Activities Implementation and 100% of those assessed scoring at or above 50%.
	13. Interviewed parents in a sample report improved parental engagement. WV – PMP Indicator (30% in Year 1, 50% in Year 2)	• Indicator achieved with parents' engagement scores indicating that 73.3% of those surveyed scored above the 50% cut-off point with a mean score of 68.8% across all respondents.
	14. Parents visit the school at least once every six weeks to borrow material from the reading toolkit to use at home.	• Indicator achieved with 74.2% of parents scoring over the 50% cut-off point required for compliance with this performance standard.
M-learning Development		
• Utilizations of M-learning application contributes to higher level of literacy in targeted schools. • Students and parents will feel motivated and this will foster a culture reading at home and in schools	15. A majority of interviewed parents in a sample report using the M-learning application to increase their knowledge on literacy education, and assess their children.	• Indicator achieved with 77.1% of parents scoring over the 50% cut-off point required for compliance with this performance standard.
	16. WV – PMP Indicator 8 schools are using Information Communication and Technology due to USG support (8 schools x 20 devices) (Year 1 and 2 target).	Indicator achieved with the distribution of 160 mobile devices (and accompanying furniture and safes for storage) to the 8 target schools participating in the project. User surveys have indicated relatively high rates of usage of the literacy app developed specifically for the project and installed on the devices with 70% of those parents surveyed indicating that they use the devices with their children at least once a month or more.
	17. M-learning game scores correlate to student benchmark scores.	• The project was not able to comply with reporting on this indicator due to the developer's configuration of the scoring system on the literacy app, which focuses primarily on frequency of attempts to achieve proficiency on a particular competency rather than proficiency itself.
	18. Implemented applications meet standardized criteria for operation.	• Indicator achieved with a review of software applications developed by the project finding general compliance with this performance standard.
Development of Reading Toolkit		
• Use of the creative literacy tools in the Reading Toolkit contributes to higher levels of literacy. • Teachers and parents are provided with easy to use material that directly links with areas in which students can use remedial teaching.	19. Spot checks of the toolkit materials usage correspond to reported student needs.	• Indicator achieved. Overall, 87.9% of those children surveyed registered scores exceeding the cut-off for compliance with this performance standard (i.e., 50%) with an overall mean score on all survey items of 69%.
	20. WV – PMP indicator 2,000 (Year 1) 2060 (Year 2) textbooks and other teaching and learning materials are provided with USG assistance.	• Indicator achieved. In all, the project distributed 1,908 booklets and learning materials to all schools during the school year, thereby achieving the stated performance standard

2.8 Monitoring and Evaluation activities.

Monitoring and evaluation of process indicators relied on the development and administration of standardized survey tools. These tools were used to monitor compliance with process indica-

tors such as access to M-learning devices and toolkit materials, stakeholder proficiency in the use of Rapid Response System and Reading Benchmarks, and other measures of the impact of capacity-building impacts. In general, these tools generated frequency levels of certain behaviors as well as global scores with indicator compliance determined by a standard cut-off point of 50% of all possible points.

The project also measured higher order impacts through a combination of externally administered EGRA tests and a review of students' internal marks with determinations of progress based on comparisons with baseline values and control schools. In selected cases, the project undertook data treatment involving the use of t-tests to determine the statistical significance of differences in mean values.

Finally, the project monitored inputs involving the number of stakeholders reached, materials distributed, the number of tests administered, and other inputs. These were generally measured through a review of project documentation and reporting provided by schools.

2.9 Other Program Management Activities

2.9.1 Program Management

As scheduled, regular monthly team meetings have taken place between the program manager and field staff. During the last quarter of Year 2 implementation, TWG members also helped to coordinate and conduct a national launch of project materials in Kampong Cham Province on 25 and 26 August 2014. This event was presided over by the Minister of Education himself as well as several Secretaries of State and numerous representatives from Provincial Offices of Education.

2.9.1.1 Timeline of Activities

The work plan approved by World Vision for Year 2 implementation included 44 activities to be undertaken during the year (October 2013 to September 2014). In all project management reported completing 98% of the activities identified during the year. One uncompleted activity occurred in the Other Program Management Activity (see Table 2.20). An explanation of postponed or incomplete activities is presented in Table 2.21 below.

Table 2.20: Summary of Progress on Work Plan Implementation for Year 2

No	Activity Component	Total Planned Activities	Completed	Partially Completed	Postponed Or Cancelled
1	Startup Activities	0	0	0 (%)	0 (%)
2	Development of Reading Benchmark System	7	7 (100%)	0 (%)	0 (%)
3	Rapid Response System Development	7	7 (100%)	0 (%)	0 (%)
4	Literacy Coaches in School	5	5 (100%)	0 (%)	0 (%)
5	Promoting Parental Engagement	3	3 (100%)	0 (%)	0 (%)
6	M-learning Development	10	10 (100%)	0 (%)	0 (%)
7	Development of Reading Toolkit (linked with RRS)	1	1 (100%)	0 (%)	0 (%)
8	Monitoring and Evaluation Activities	5	5 (100%)	0 (%)	0 (%)
9	Other Program Management Activities	6	5 (100%)	0 (%)	1 (2%)
	Total	**44**	**43 (98%)**	**0 (%)**	**1 (2%)**

Table 2.21: Explanation of Activities Not Completed during Year 2 by Activity Component

Activity Component	Activity Reference No.	Activity	Explanation
9. Other Program Management Activities	9.11	Annual Audit	The audit is scheduled to occur following the completion of all project activities .

10. Quantification of Results

Success Story: Model Teacher

At age of 22 years old with fresh smile showing her appreciation for work she was doing, Miss Ngor Sovannadara tells the TRAC project staff about her biography that nowadays, she is a primary school teacher at Hun Sen Komrou Srok, Chikreng district, Seim Reap province. She has nine siblings and she is the sixth daughter in the family. She became a teacher since 2013. With conscience, she volunteers to be both a teacher and secretary in her school as well, she always tries to work hard and carefully, she never waste her time.

Miss Dara said "**As a teacher, we have to have responsibility for our roles and try to encourage compassion for the children who are willing to learn because they are the future of the country**". Even, she commits all effort to complete her job she also mention the difficulties. Some of her problem encountered in teaching children in school, teaching the children are more difficult than the adult because small children are easily losing concentration on their lesson, they like to play more, and some who have not gone through pre-school face more difficulty in writing thus teachers have difficulty to teach since their capacity are not equal.

High Professional Levels among Teachers: Dara, a Grade 1 teacher, helps a student practice a literacy game on provided tablets in the library

She never gives up her work, despite she met many problems in teaching, she was also added another role as a school secretary who have responsible for job such as administrative reports, organization of school direction and teacher attendance list and general work in the school, moreover she also volunteer to help the work of TRAC project.

She confirmed that it was a volunteer work with the project TRAC because she recognized the importance of the project for the children in the school and community. She helps the work of literacy coach, teachers grade 1 and 2 and librarian in doing interval test and teach children to play reading game and tablet in library. Furthermore she always participate in informative meeting for parents regularly in her school.

She mentioned that she teaches the student following the curriculum of the Ministry of Education as other teacher but at the break time she always bring the struggling student to practice reading game and using tablet in the library and if she has free time she coaches grade 5 and 6 students about how to teach small children.

With the TRAC project she is responsible for recording the student score who have played tablet and make monthly report to the project staff, although she has much work and low salary she is not surrender she still continue her efforts with work.

Miss Dara, showed her satisfaction with the project who support her school she has said that before cooperating with the project, the school faced a lot of problems in teaching , all teach-

ers have to produce teacher material by themselves, they did not have interval test to measure the ability of student along the stage, some students felt boring with the teaching style. Only after receiving many interventions from TARC school has a lot of changes, we have a lot of material for teaching, struggling students have enough time to improve their leaning, they can read and write better. The promotion rate increase and deserve the ability, repetition rate was reduced, which resulted from the efforts of the teachers in collaboration with the project.

Teacher Dara also thanked the TARC Project that has sponsored her school. She wishes TRAC project continue to work with her school to help develop the student capacity for getting more high quality.

4. Conclusions

Measures of Success: With over 90% of performance indicators successfully achieved during the course of the project, it can be safely concluded that the TRAC Project has been highly successful in what it sought to achieve. This refers mainly to the development of a holistic approach to foster the acquisition of early grade reading by Cambodian children. The approach took in not only curriculum development, but also a diversified set of activities at school level that involved stakeholders at many levels including parents, teachers, school directors, literacy coaches, and community members. The successful introduction of a school-based Literacy Coach, a new position in Cambodian schools, was the linchpin of the system and provided the necessary animation of the links between different actors.

Higher Order Impacts: Project impacts have been meticulously documented in this report. In terms of higher order impacts involving changes in reading proficiency, the project's bottom line, TRAC has been able to empirically demonstrate statistically significant changes from baseline values both within treatment schools and in comparison to a number of control schools whose equivalence to the treatment schools was also empirically validated. These changes were observed both at the end of Year 1 and Year 2, further suggesting that impacts are real. In addition, these impacts were concurrent with other measures of reading achievement such as observed changes in pass rates and mean scores in students' internal marks. These empirically validated impacts contribute greatly to efforts to ensure evidence-based development in the area of reading in Cambodia.

Enduring Products and Impacts: The project will leave behind significant products that will greatly enhance educational quality in Cambodian schools. These products include the development of a set of user-friendly reading benchmarks for Grades 1 and 2, protocols for a Rapid Response System to promote continuous assessment linked to remedial responses, a revolutionary literacy app linked to the national curriculum, and a Literacy Toolkit whose dissemination through an affiliated social enterprise is ensuring large-scale dissemination of Khmer language literacy games to hundreds of Cambodian schools. Thus, the project's influence is extending not only to 8 target schools but to a more national level. The project was revolutionary in many ways and was the first to empirically show that M-learning interventions are feasible in rural Cambodian schools.

Expectations Exceeded: In many respects, the project has exceeded expectations with rapid adoption and dissemination by the Ministry of Education, Youth, and Sport itself. Historically, it has not been easy to integrate new pedagogical methods and approaches into the instruction of Khmer Language, which has in the past been somewhat sensitive. But the close cooperation with two Ministry departments and the rapid approval of the reading benchmarks by MoEYS have been unprecedented and speak to the high regard of many counterparts towards the project. The project represents an ideal in educational development with a close and effective multi-partite effort involving government, a local NGO, an international NGO, and a social enterprise yielding a very high quality product.

The Way Forward: A clear path forward for replicating the TRAC approach now exists. With full government approval and adoption of the model, it remains for development partners to assist the Ministry in printing reading benchmarks (and extending them to Grade 3) for national dissemination and providing capacity-building support to school-level stakeholders in their effective use. The creation of Literacy Coach posts (e.g., a School Vice Director) has played a key role in ensuring that activity protocols are animated, suggesting that this should be a key

element in on-going institutional reform to ensure the success of efforts to bring about improved reading proficiency. The close support of commune councils for the Literacy Coach position also demonstrates that the position is both sustainable (since the councils have subsidized the position with Commune Investment Funds) and attractive to local stakeholders.

Development partners and Ministry will also need to consider to what extent additional investments should be made in M-learning, since the project has now demonstrated that it is a feasible intervention in rural Cambodian schools. With surrounding countries now subsidizing One Tablet per Child policies (e.g., Thailand), the TRAC Project provides a high degree of relevant experience to help Cambodia keep up with trends in ASEAN. Ministry and government partners should also provide a friendly environment to ensure a role for market forces in the dissemination of innovative literacy materials, as demonstrated by the role played by TTS in the project's impact and influence beyond target schools. TTS and other social enterprises with similar goals can provide sustained access to innovative literacy materials that prevent unsustainable dependence on project-mediated supply chains, which disappear when a project ends. These efforts should link closely with the recent introduction of school improvement grants (e.g., SIG) to create demand for the services of such social enterprises in promoting innovation in early grade literacy.

Annex 1: Annual Report – TRAC Achievements for Year 2

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Start Up Activities												
		1.1. Bring onboard Key Personnel	Project Manager	2	X							
		1.2. Recruit, hire and train other staff	Project Manager, M&E adviser	2	X							
		1.3. Train/review staff in office procedures and field grant manuals	Project Manager, Field Coordinator, Literacy Adviser	2	X							
		1.4. Procurement of equipment and supplies; assign asset numbers and tracking inventory	Project Manager, Admin Officer		X							
		1.5. Sign subgrant agreements with subgrantees	WE Country Director &/or WE Vice President		X							
		1.6. Conduct analysis for detailed implementation budget	Project Manager, Field Coordinator		X							
		1.7. Prepare TORs for baseline and baseline survey tool	M&E Adviser, Literacy Adviser		X							
		1.8. Launch Ceremony with the participation of all beneficiaries in target schools, counterparts and partners	Project Manager, Field Coordinator, Literacy Adviser		X							
2. Development of Reading Benchmark System												
• Teachers are able to systematically asses students and identify high risk students • Increased levels of literacy in target schools	• **WV – PMP indicator At least 65% of teachers is using the benchmark system following standard implementation criteria by Yr 1 and 85% by year 2.** • Number of reported children below standard benchmarks is reduced by 50% or more each year • **WV-PMP indicator 8000 (year 1) and 20.000 (year 2) standardized learning assessments supported (standard USAID indica-**	2.1 Request personnel from PED (1) and DCD (1) by formal letter to work as Khmer Language Advisers.	Project Manager		X							
		2.2. Develop ToR and Contracts for MoEYS counterparts	Project Manager, Literacy Adviser		X							
		2.3. Meeting with FTI EGRA project to align yearly benchmarks with TRAC assessments	M&E Adviser, Literacy Adviser		X							
		2.4. Two-day workshop with MoEYS, WV staff and project staff to define quarterly benchmarks.	Project Manager, M&E Adviser	2	X							
		2.5. Review internal textbooks assessment in relation to EGRA guidelines.	M&E Adviser, Literacy Adviser		x							
		2.6. Initial development of quarterly reading benchmarks for quarter 1 and 2 and develop 60 second reading tests based on both EGRA and MoEYS standards.	M&E Adviser, Literacy Adviser		x							

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	tor) • **WV-PMP indicator 41(Year 1) (64 Year 2) teachers/educators/teaching assistants who successfully completed in-service training or receiving intensive coaching or mentoring with USG support**	2.7. ToT for counterpart, WV staff and project staff on piloting reading test for grade 1	M&E Adviser, MoEYS		X							
		2.8. Training of literacy coaches and teachers from grade 1 to help pilot reading test	Field Coordinator, MoEYS	3	X							
		2.9. Pilot TRAC reading test among 15% of all Grade 1 students in the target schools.	Field Coordinator		X							
		2.10. Evaluate and analyze process of testing and results of the tests.	M&E Adviser		X							
		2.11. Finalize reading benchmarks for all 4 quarters in Grade 1	M&E Adviser, MoEYS		X	X						
		2.12. Teacher orientation on using all 4 finalized reading benchmarks in Grade 1	Field Coordinator			X						
		2.13. Initial development of quarterly reading benchmarks for Grade 2 and develop 60 seconds reading test based on both EGRA and MoEYS standards	M&E Adviser, MoEYS				X	X				
		2.14. ToT for counterparts, WV staff MoEYS and project staff on piloting reading test for Grade 2	Field Coordinator					X				
		2.15. Training of literacy coaches and teachers from grade 2 to help pilot reading test	Field Coordinator	3				X				
		2.16. Pilot reading test among 15% of all Grade 2 students in the target schools	Field Coordinator						x			
		2.17. Evaluate and analyze process of testing and results of the tests	M&E Adviser						x			
		2.18. Finalize reading benchmarks for all 4 quarters in grade 2	M&E Adviser, MoEYS	5					x	x		
		2.19. Develop digital and paper data entry system for EGRA assessments to be administered by teachers and school management.	M&E Adviser, M&E Officer		X					x		
		2.20. Teacher orientation on using the finalized reading benchmark system in Grade 2	Field Coordinator	5						x		
		2.21. Reflection Workshops Benchmark System and RRS	Field Coordinator	6			X				x	
		2.22. Development and assessment of external administered tests through spot checks to assess if 65% of teachers use benchmark tests correctly	M&E Adviser, Field Coordinator	4			X				x	
3. Rapid Response System Development												
• Schools with RRS re-	• Externally administered EGRA assessment indi-	3.1 Consultative workshop with literacy experts, coaches, WV staff and teachers to develop rapid response system	Project Manager, Literacy Adviser		X				x			

Annex 1: Annual Report – TRAC Achievements for Year 2

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
sponse systems report better reading achievements than schools that do not. • Development reading culture in schools and communities that motivates children to practice their literacy skills	cates target schools perform better than control schools each year • Internal language scores in target schools increase from baseline levels each year. **WV - PMP indicator Year 1 -60%/65% m/f Year 2- 65%/75% m/f** • **WV - PMP indicator 50% (Year 1), 75% (Year 2) of teachers utilizing the Rapid Response System** • **WV – PMP indicator 1150 (Year 1) and 2400 (Year 2) of learners receiving reading interventions at the primary level (50% girls)**	3.2 Development of Rapid Response System protocols, linking benchmarks with tools from the Reading Toolkit.	Literacy Adviser	2	X				x			
		3.3 School orientation on RRS protocols	Field Coordinator, Literacy Adviser		X				x			
		3.4 Parent and community orientation on RRS protocols	Field Coordinator, Literacy Adviser	3	X				X			
		3.5 Follow-up monitoring on implementation of RRS	Field Coordinator, M&E Officer	4,5		X	X			x	x	
		3.6 Communication of benchmark information and assessment results from school to parents via RRS. This would happen every six weeks	Field Trainer (with Literacy Coach)	4,5		X	X	x	x	x	x	x
4. Literacy Coaches in Schools												
• Trained literacy coaches monitor and support the TRAC interventions in schools and communities • Literacy coaches organize training for parents, librarians and teachers on	• Each school has a trained literacy coach • Literacy coach report training and monitoring activities on a regular basis. • Literacy coaches using activity protocols according to RRS implementation criteria. **WV – PMP indicator; 50% in year 1, 75% in year 2**	4.1 Develop an outline of tasks and responsibilities for Literacy Coaches.	Literacy Adviser		X							
		4.2 Develop training materials for Literacy Coaches based on agreed tasks	Literacy Adviser	2	X							
		4.3 Selection of literacy coaches in the schools and community.	Field Coordinator		X							
		4.4 Discuss allocation of funds for literacy coach with CEFAC (in relation to start of the fiscal year)	Field Coordinator		X							
		4.5 Workshop for Literacy Coaches on General Roles	Field Coordinator, Field Trainer	2	X							
		4.6 Workshop for Literacy Coaches on M-learning	Literacy Adviser, Field Coordinator, Field Trainer	2		X		X				
		4.7 Reflection and Follow up Workshop for Literacy Coaches. All coaches attend these meetings.	Field Coordinator, Field Trainer			X	X		x	x		x
		4.8 Financial support for Literacy Coaches using locally	Field Coordinator,			X	X		x	x	x	

Annex 1: Annual Report – TRAC Achievements for Year 2

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
literacy improvement techniques.		raised and sustainable resources	Field Trainer									
		4.9 Literacy coaches organize workshops and informative meetings for parents and other community members	Field Coordinator, Field Trainer			X	X	X	x	x	x	x
		4.10 Literacy Coach and Teacher Conferences on reading benchmark data	Field Coordinator, Field Trainer	3,4	X	X			x	x		
		4.11 Monitoring of Literacy Coach activities based on standardized criteria by field coaches and possible other parties (such as POE, DOE, and WV staff)	Field Coordinator, Field Trainer		X	x	X			x	x	x
5. Promoting Parental Engagement												
• Increased parental engagement in reading and other subjects.	• Literacy Coaches report satisfactory responses from a majority of parents • interviewed parents in a sample report improved parental engagement. **WV – PMP indicator (30% in year 1, 50% in year 2)** • Parents will visit the school at least once every six weeks to borrow material from the reading toolkit to use at home.	5.1 Organize consultative discussions with counterparts in government, WV staff about content for parental engagement foundational workshop	Project Manager, Literacy Adviser		X							
		5.2 Develop workshop materials for foundational workshop for parents	Project Manager, Field Coordinator, Literacy Adviser	2	X							
		5.3 Implement foundational workshop to promote parental engagement. This will also include an orientation on reading sessions between parents and children in schools	Field Coordinator, Field Trainer	2	X	X			x			
		5.4 Weekly reading sessions by parents with their children (peer reading has been added in quarter 2)	Field Trainer	4		X	X	X	x	x	x	x
		5.5 Organize school-based system to promote access to reading materials for children and parents using library as focal point	Field Trainer		X	x	X					
		5.6 Develop monitoring tools to use in assessment of parental engagement.	M&E Officer		X							
		5.7 Regular assessment of utilization of reading material and application among all parents by literacy coach	Field Trainer, M&E Officer	5,6	x	x	X		x	x	x	
6. M-Learning Development												
• Utilizations of M-learning application contributes to higher level of literacy in tar-	• A majority of interviewed parents in a sample report use the M-learning application to increase their knowledge on literacy education, and assess	6.1 Khmer Literacy expert starts reviewing textbooks.	Project Manager, MoEYS		X							
		6.2 Khmer Literacy expert and program staff provide educational content to ET4D to develop M-learning application in Khmer language	Project Manager, MoEYS		X	X						
		6.3 Audio recordings linked with the Khmer script that will be put in the game.	Project Manager		X	x						

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
geted schools. • Students and parents will feel motivated and this will foster a culture reading at home and in schools	their children • **WV – PMP indicator 8 schools are using Information Communication and Technology due to USG support (8 schools x 20 devices) (Year 1 and 2 target)** • ***M-learning game scores correlate to student benchmark scores*** • ***Implemented applications meet standardized criteria for operation***	6.4 Web version for internal testing will be finished	ET4D			X						
		6.5 Testing period for web based version to try out the application with a small group of parents and students	Project Manager, MoEYS			X						
		6.6 Technical/content modifications based on testing results, if necessary	ET4D			x	X					
		6.7 Graphic designer / illustrator to provide graphical context for the mini stories in the game.	Project Manager			X						
		6.8 Android Version for testing will be finished	ET4D	2			X					
		6.9 Testing period to try out the application with a sample group of parents and students in all target schools	Project Manager, Field Coordinator, Field Trainer	3			X	X	x			
		6.10 Technical/content modifications based on testing results, if necessary	ET4D				X	X	X			
		6.11 Final version M-Learning for implementation finished	ET4D					X	X			
		6.12 Procurement of Android smartphones and/or tablets for general use in school libraries and with special case students	Project Manager			x	X	X	X			
		6.13 School open-house for parents to install M-learning application on smartphones or tablets	Project Manager, Field Coordinator, Field Trainer				X	X	X	x		
		6.14 The sample target communities and schools (e.g., librarians) receive training on use and maintenance of tablets smartphones and applications	Project Manager, Field Coordinator, Field Trainer				X	X	X			
		6.15 Orientation for Literacy Coaches to monitor data generated by M-learning applications	Project Manager				X	X	X			
		6.16 Monthly report from Literacy Coaches on assessment results of M-learning software	Field Trainer				X	x	X	x	x	x
		6.17 Final implementation report from ET4D	ET4D							x		
		6.18 Advocacy with local mobile phone operators for Public Private Partnership to assist in procurement of additional mobile devices.	Literacy Adviser, Project Manager			X			x			
7. Development of Reading Toolkit (linked with RRS)												
• Use of the creative literacy tools in the Read-	• Spot checks of the toolkit materials usage correspond to the reported student needs.	7.1 Audit of existing early literacy materials to see what is available from earlier projects	Field Coordinator, Field Trainer		X							
		7.2 Match existing materials with reading benchmark standards to determine appropriate elements that	M&E Adviser, Field Coordinator	2	X							

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ing Toolkit contributes to higher levels of literacy. • Teachers and parents are provided with easy to use material that directly links with areas in which students can use remedial teaching.	• **WV – PMP indicator 2000 (Year 1) 2060 (Year 2) of textbooks and other teaching and learning materials provided with USG assistance**	can be included in toolkit (see objective 2.2)										
		7.3 Assemble toolkit including a box design for easy access and organization	Field Coordinator	2	X							
		7.4 Development of orientation materials to facilitate use of the toolkit by stakeholders, especially librarians, Literacy Coaches, and teachers	Field Coordinator, Field Trainer		X	X						
		7.5 Deliver orientation on use of the toolkit to all relevant stakeholders	Field Coordinator, Field Trainer		X	X						
		7.6 Monitor the implementation of improved teaching strategies in classrooms	Field Trainer, M&E Officer		X	x	X	x	x	x	x	x
		7.7 Modification of libraries to enhance 'reading culture' environment there with central focus on reading toolkits.	Field Coordinator, Field Trainer		X	x	X					
8. Monitoring and Evaluation Activities												
		8.1 Undertake School Selection in collaboration with POE, DOE and World Vision	Field Coordinator, Field Trainer, M&E Officer		X							
		8.2 Develop assessment framework focusing on target and control school comparisons	M&E Adviser, M&E Officer	3	X							
		8.3 Select control schools based on matching criteria with target schools	Field Coordinator, M&E Adviser		X							
		8.4 Review earlier EGRA tests developed in Cambodia and adapt to project purposes.	M&E Adviser, Project Manager,		X							
		8.5 Development of Grade 1 EGRA and data entry system/student database for project monitoring purposes	M&E Adviser, M&E Officer	3	X							
		8.6 Train PED, POE, DOE counterparts and WV staff on EGRA administration (Grade 1)	Field Coordinator, Field Trainer		X							
		8.7 Administer external EGRA as baseline for Grade 1	Field Trainer, M&E Officer		X							
		8.8 Administer external EGRA as post-tests for Grade 1	Field Trainer, M&E Officer	4,6			X					x
		8.9 Development of Grade 2 EGRA and data entry system/student database for project monitoring pur-	M&E Adviser, M&E Officer	3			x					

Annex 1: Annual Report – TRAC Achievements for Year 2

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corresponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		poses										
		8.10 Train PED, POE, DOE counterparts and WV staff on EGRA administration (Grade 2)	Field Coordinator, Field Trainer					x				
		8.11 Administer external EGRA as baseline for Grade 2	Field Trainer, M&E Officer						x			
		8.12 Administer external EGRA as post-tests for Grade 2	Field Trainer, M&E Officer	5,6								x
		8.13 Development of monitoring tools for teacher administration of reading benchmark system	M&E Adviser	3	X							
		8.14 Development of attitudinal survey response tools for Literacy Coaches	Field Coordinator, M&E Officer	3	X							
		8.15 Development of survey tools to assess parental engagement	M&E Officer	3	X							
		8.16 Development of spot check tools to monitor tool kit usage	M&E Officer	3	X							
		8.17 Development of tools for monitoring of M-learning usages	M&E Officer	3,4		X						
		8.18 Surveys and on-going monitoring using developed tools	M&E Officer		x	x	X			x	x	x
		8.19 Conduct correlation assessment between M-learning game scores and reading assessment benchmarks	M&E Adviser	4,6				x				x
9. Other Program Management Activities												
		9.1 Review and revise quarterly work plan	Project Manager		X							
		9.2 Quarterly work plan finalized and approved	ACR	1	X							
		9.3 Develop monthly work plan for internal use by the project staff	Literacy Adviser, Project Manager		X							
		9.4 Develop marketing and branding plan	EGRA Adviser	1	X							
		9.5 Develop schedule of project staff meetings	Project Manager		X							
		9.6 Project staff monthly meeting	Project Manager		X	x	X	x	x	x	x	x
		9.7 Set up a Working Group with representatives from PED, DCD, POE, DOE, WV, KAPE and WE.	Project Manager		X							
		9.8 Quarterly meetings of the Working Group to monitor and evaluate on the implementation process combined with the meeting with WV.	Project Manager	2,3,4,5,6,7	X	x	X	x	x	x	x	x
		9.9 Regular monitoring and follow up on project activi-	Working Group		X	X	X	x	x	x	x	x

Annex 1: Annual Report – TRAC Achievements for Year 2

Intermediate Objectives	Performance Indicators	Outputs/Activities	Person/Partner Responsible	Corre-sponding Milestone	2013				2014			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		ties in target schools by PED, POE, DOE, WV and project staff										
		9.10 Quarterly reports	Project Manager		x	X	X	x	x	x	x	x
		9.11 Annual Audit						x				x
		9.12 Final evaluation and report	Project Manager	7								x