Using LQAS to Monitor the Implementation of Early Grade Reading Instruction

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Welcome!

- Effective implementation requires close monitoring
- Implementation will never be uniform
- Traditional baseline / endline assessments do not provide data with enough frequency of disaggregation for timely improvement of implementation
- Funding constraints do not permit greater frequency or disaggregation of traditional assessments
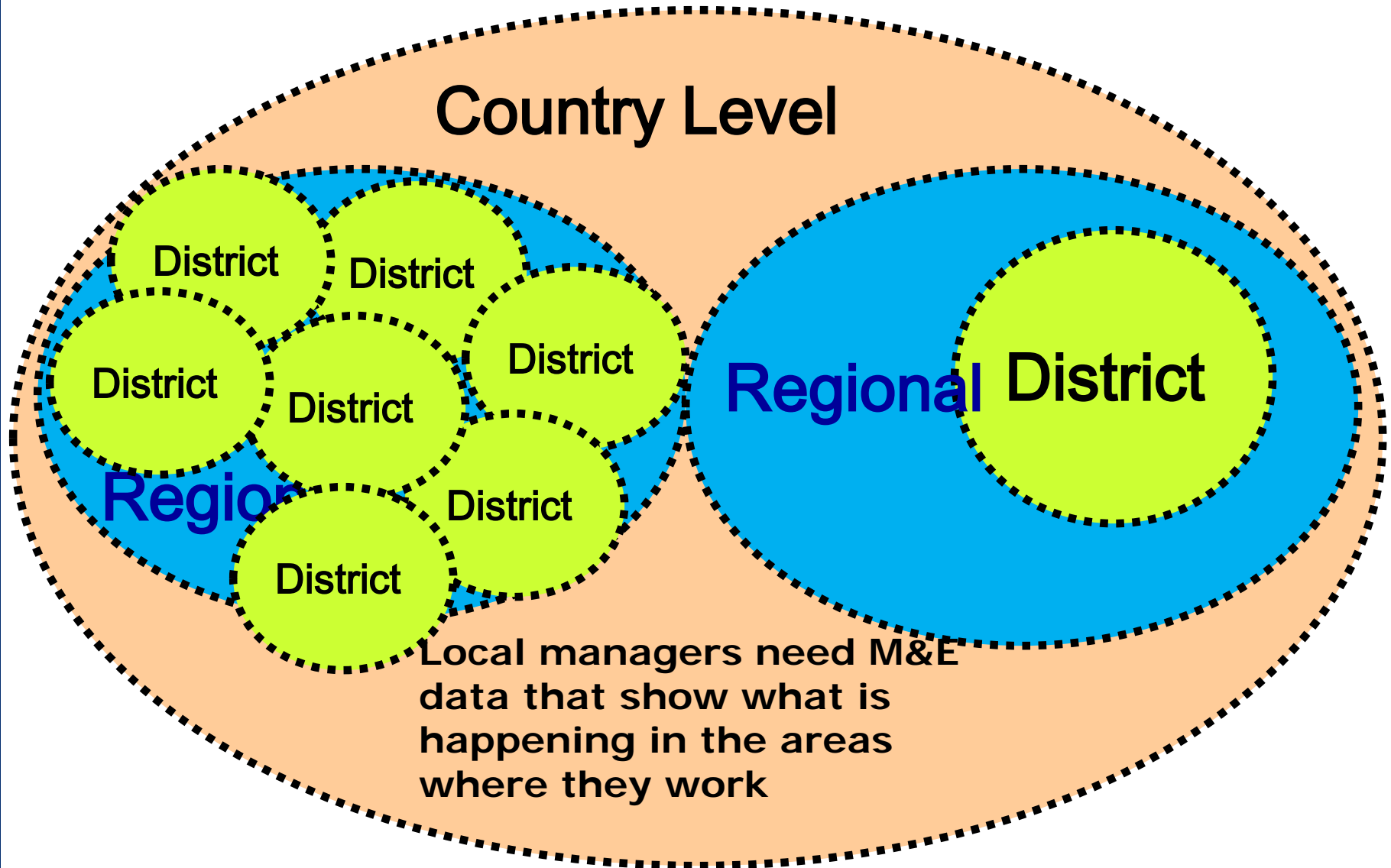
- ## What is an alternative?

Raise your hand if ….

- You did not have monitoring information when you needed it …
- If you know you have schools implementing your program with fidelity but you do not know where they are…
- If you wish you had a crystal ball to find those schools who are not implementing your program at all – or – correctly.

Seminar Objectives

- Overview of Lot Quality Assurance Sampling (LQAS)
- Globally expanded use of LQAS
- How LQAS works and why it works
- Applying LQAS in education
- LQAS pilot from Ghana
- Practice using LQAS data for monitoring early grade reading
- Next steps in using LQAS

What information is needed to manage a program?

Country Level

District

District

District

District

District

District

District

Region

Regional District

Local managers need M&E data that show what is happening in the areas where they work

Surveys Measure Progress:
Identify Pockets of Risk

Target = 70% of Schools reach P3 reading target

Outcome Indicator = 68.4% Schools reach the target

Region X

We turn to industry

- How to assess performance

  - In multiple locations (Schools and Districts) recurrently

  - Assess the enterprise as a whole (Education System)

  - Using the data for 2 purposes

  - Lot Quality Assurance Sampling (LQAS) was developed to address these 2 purposes

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Who can tell us what is LQAS?

What Is LQAS?

Reached Target

Below the Target Or Below Average

A

B

C

D

E

F

G
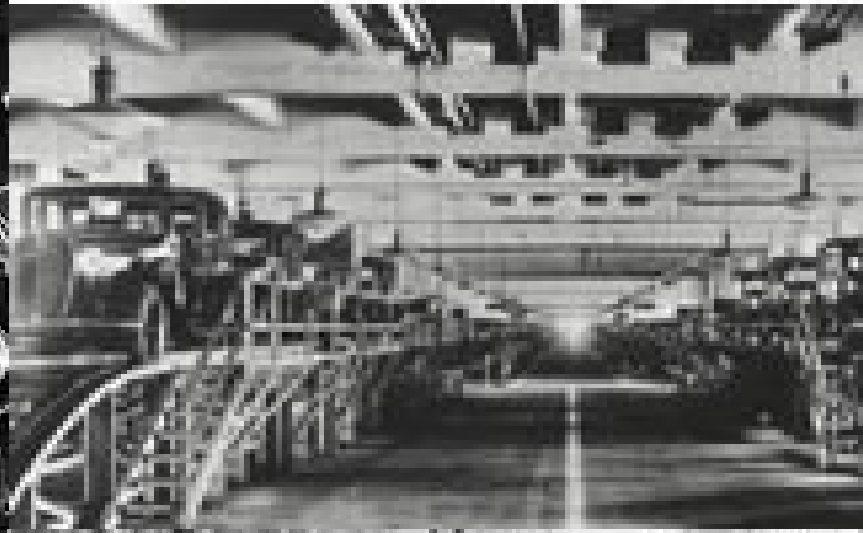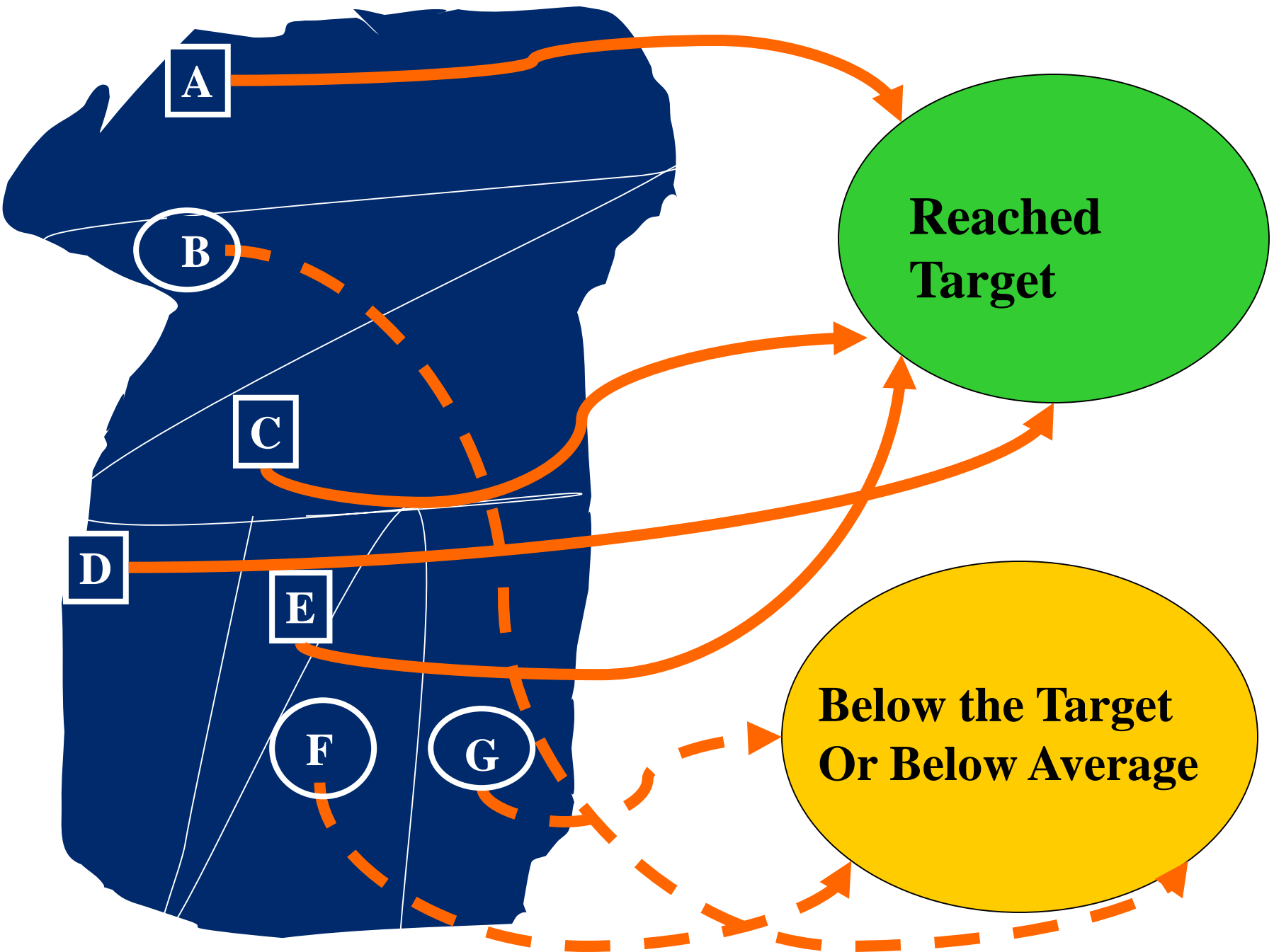
Maintain the program at the current level

Identify Supervisors and Heads that can help other Supervisors, and Heads improve their performance

Reached Target

Identify the reasons for program problems

Develop targeted solutions

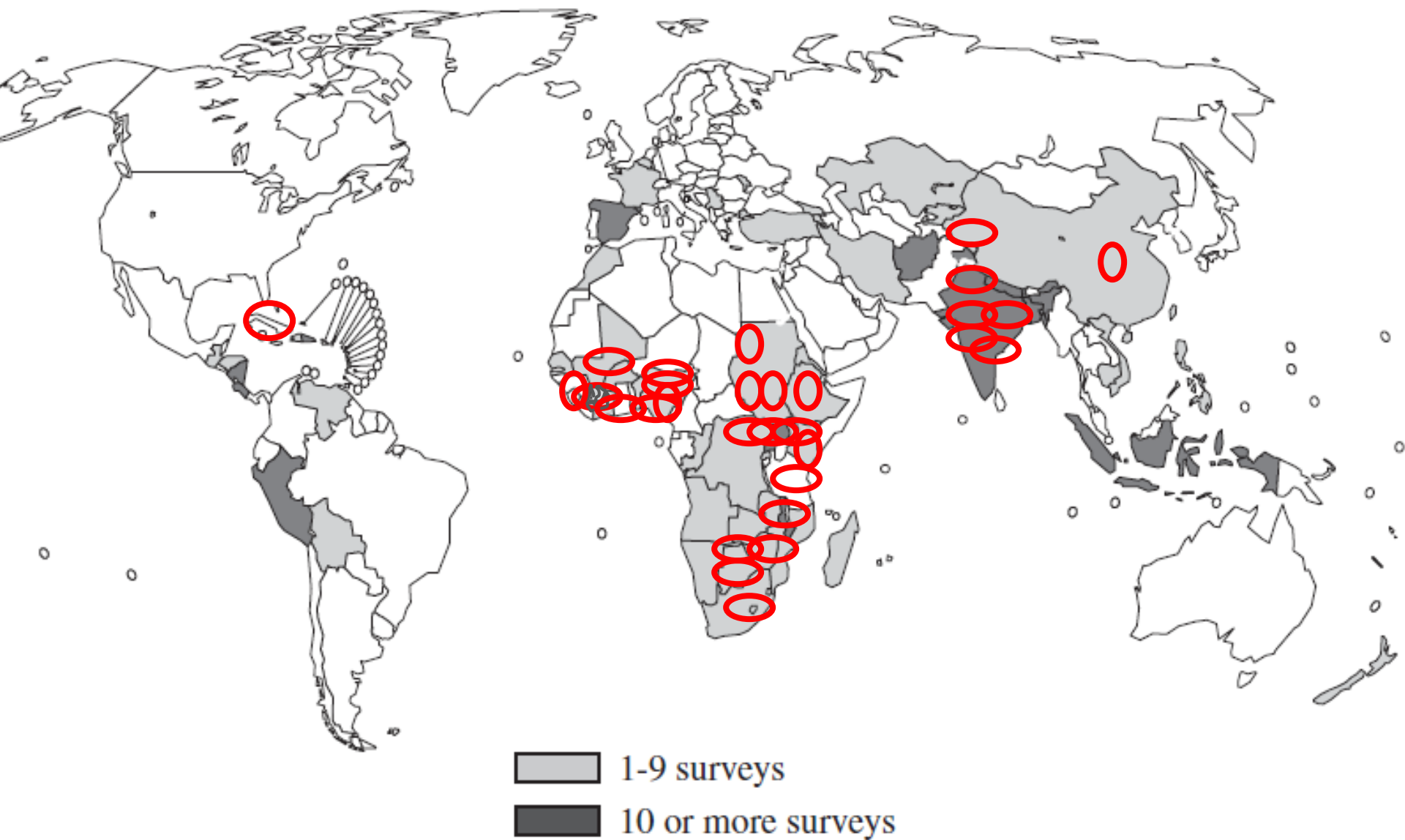**Below the Target Or Below Average**

Fig. 2. Countries conducting LQAS surveys, 1984–2004.

What is LQAS?

What is LQAS?

LQAS is a classification tool
- Areas are classified as performing "acceptably" or "unacceptably"
- Its strength is it identifies the **"worst of the worst"**
- Classification linked to a program response
  - Invest resources in areas with unacceptable performance to identify underlying reasons for the problems
  - Identify effective practices in areas with acceptable performance to maintain them
- Classification based on a *sample* from the population
  - Subject to risks of misclassification errors

What is LQAS?

- How do we define our "supervision areas"?
  - Where is the program being implemented?
  - Where are resources allocated?
  - What are the political boundaries of affected areas?
    Eritrea has 6 Political Regions (Zobas);
    divided into smaller political areas (Sub Zobas)
  - Implement LQAS at Sub Zoba level since programs managed at this level

Advantages for Local Program Management

- Can be used at a local level with modest amounts of supervision – (sustainability)
- Identifies where the successes and challenges are located
- Produces information that can be rapidly interpreted by local managers
- Paper/pencil analyses rather than requiring computer analyses
- Data can be used for national reporting (95% confidence intervals) as well as for local management
- A sampling theory that can be scrutinized (statistically a most accurate method)

What is LQAS?

How do we classify a supervision area?

- Randomly select n individuals in an area
  - If fewer than d of the n individuals have the trait of interest, then classify the areas in the low, unacceptable category
  - If d or more individuals have the trait of interest then classify the SA in the high, acceptable category

For example, does an adequate proportion of Schools have an acceptable reading program?

  - Randomly sample 19 schools ($n=19, d=9$)
    - If fewer than 9 schools have an acceptable reading program, classify in low category ("unacceptable")
    - If 9 or more have one, classify in high category ("acceptable")

What is LQAS?

- How do we determine the sample size and decision rule?
  - At X% achievement, we want α or less error for being classified in the lower category?
    - At 60% of schools performing adequately, we want at least 90% probability of the district being classified in the upper (acceptable) category.
  - At Y% achievement, want β or less error for being classified in the high category?
    - At 30% of schools performing adequately, we want at least 90% probability of the district being classified in the lower (unacceptable) category.
  - Probabilities calculated using the binomial model

What LQAS is (5)
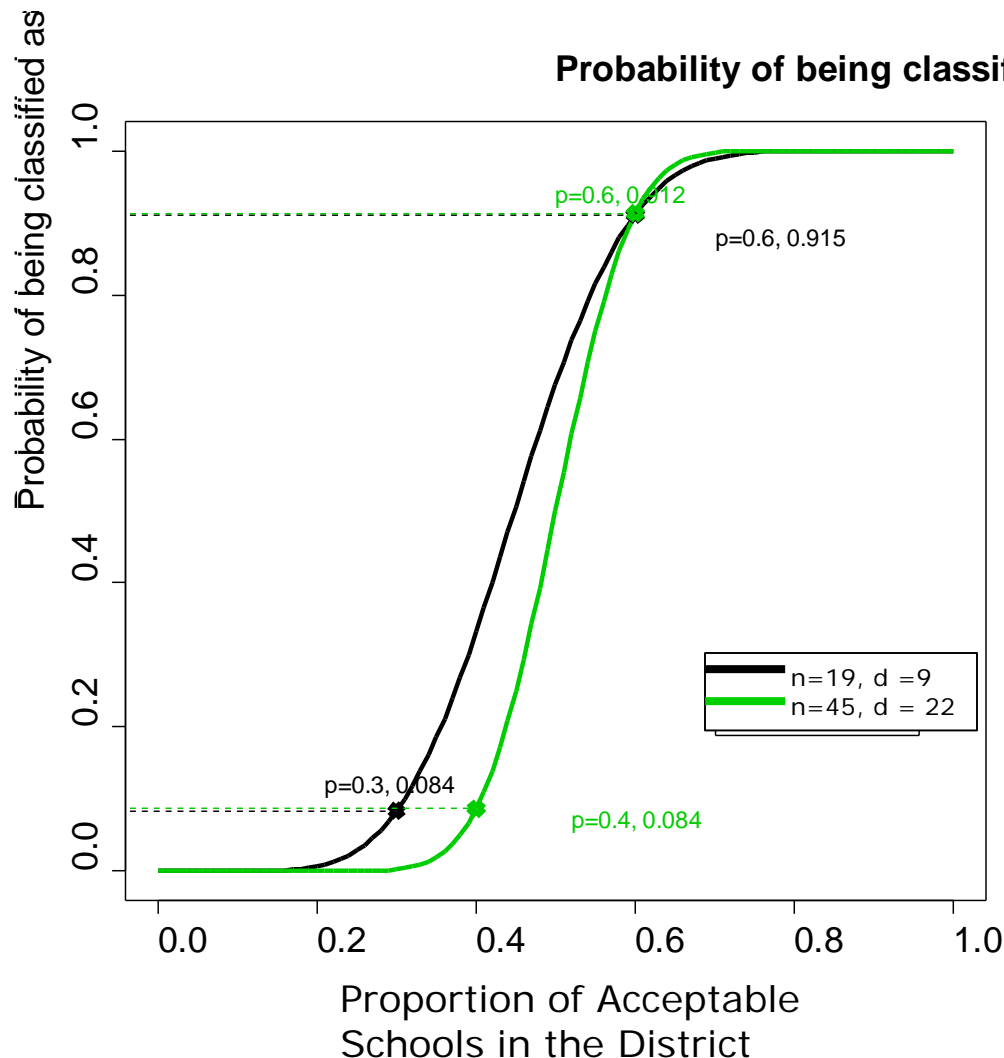
Determining sample size/decision rule:

- **Increase accuracy of classification by increasing sample size**

- **Decrease the distance between categories by increasing sample size**

Viewing Results

As a Program Manager:

- Assess one or more indicators

- Assessing indicators regionally and nationally

Note: health sector results have been changed occasionally to reflect the education sector

Schools with 1+ Readers for Every 2 Students

Benchmark=65%, Decision Rule=10

Anseba

Area	Yes	No	Total
1	9	10	19
2	13	6	19
3	18	1	19
4	3	16	19
5	11	8	19
6	12	7	19
7	18	1	19
8	12	7	19
Total	96		152

These are the problem supervision areas. The Decision Rule is 10 children with the trait in order to meet the standard

Chlidren 0-11 Months Slept Under ITN Last Night
Benchmark = 65%, Decision Rule=10

Anseba				Gash Barka				Dabub			
Area	Yes	No	Total	Area	Yes	No	Total	Area	Yes	No	Total
1	9 *	10	19	1	7 *	12	19	1	9 *	10	19
2	13	6	19	2	10	9	19	2	10	9	19
3	18	1	19	3	17	2	19	3	15	4	19
4	3 *	16	19	4	11	8	19	4	12	7	19
5	**Region 1**		19	5	**Region 2**		19	5	**Region 3**		19
6			19	6			19	6			19
7	18	1	19	7	5 *	14	19	7	10	9	19
8	12	7	19	8	5 *	14	19	8	3 *	16	19
Total	96		152	Total	76		152	9	11	8	19

Maekel				NRS				Dabub (cont)			
								Total	96		171
Area	Yes	No	Total	Area	Yes	No	Total	SRS			
1	5 *	14	19	1	5 *	14	19	Area	Yes	No	Total
2	**Region 4**		19	2			19	1	3 *	16	19
3			19	3	**Region 5**		19	**Region 6**			19
4	7 *	12	19	4	12	7	19		2	17	19
5	2 *	17	19	5	8 *	11	19	4	0 *	19	19
6	5 *	14	19	6	1 *	18	19	Total	6		76
Total	27		114	7	2 *	17	19				
				8	4 *	15	19				
				9	1 *	18	19				
				Total	40		171				

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Table 1: Anseba Zoba and Its 8 Sub-Zoba: Multiple ITN Indicators									Zoba Coverage
Zoba	1	2	3	4	5	6	7	8	
≥1 Bed net in HH (0-11)									**91.4%**
Slept under net (0-11)									**82.1%**
Dipped in Last 6 mo (0-11)									**63.1%**
Net with no visible tears or holes									**59.7%**
While pregnant slept under ITN (0-11)									**71.3%**

Children 0-11 Months Slept Under ITN Last Night
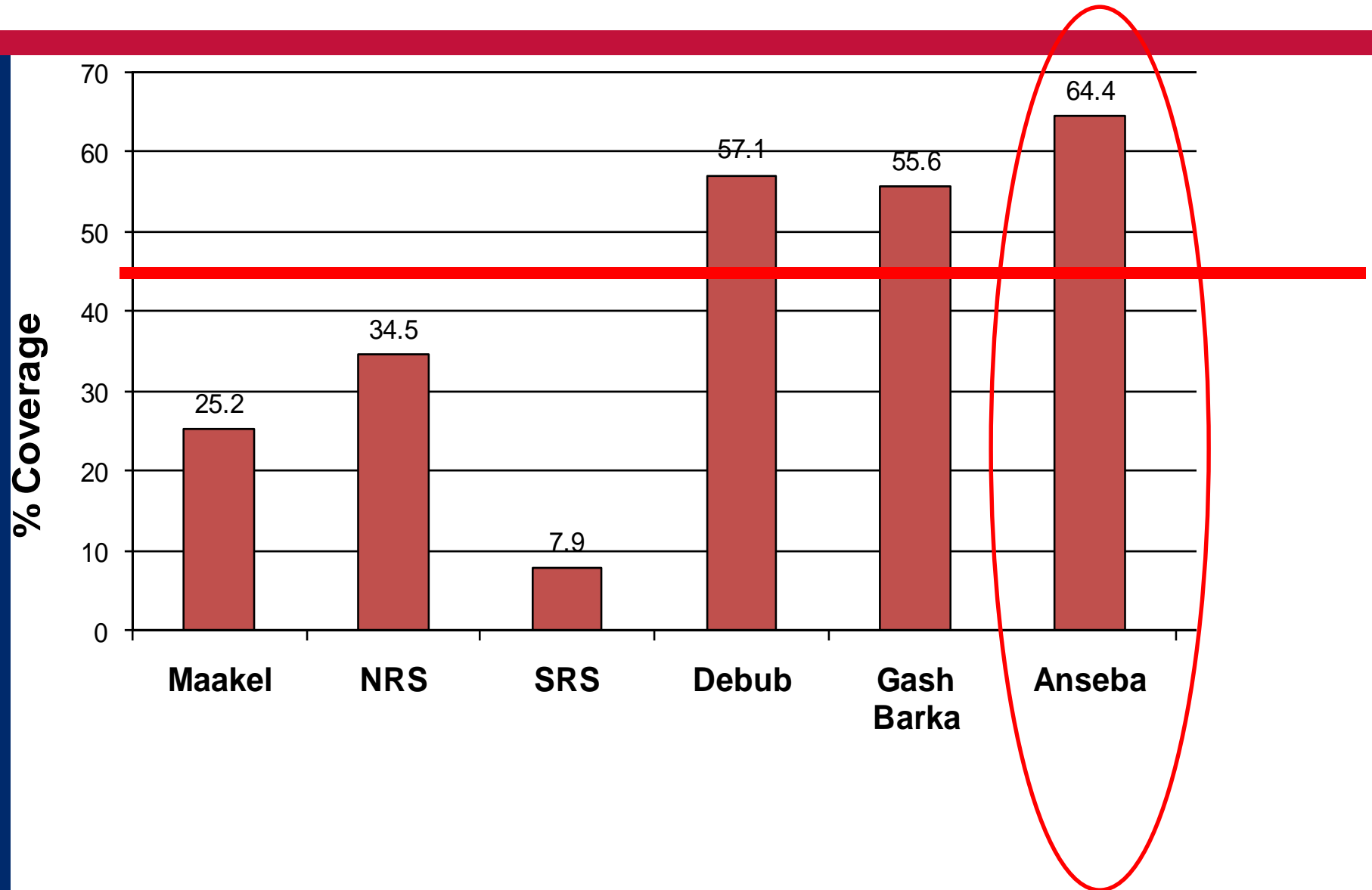
Questions?

Using results at Regional, District, and Sub-District levels: UNICEF

Ghana (2012)
Three Regions Assessed

Northern Region is identified as the priority region for vaccination...

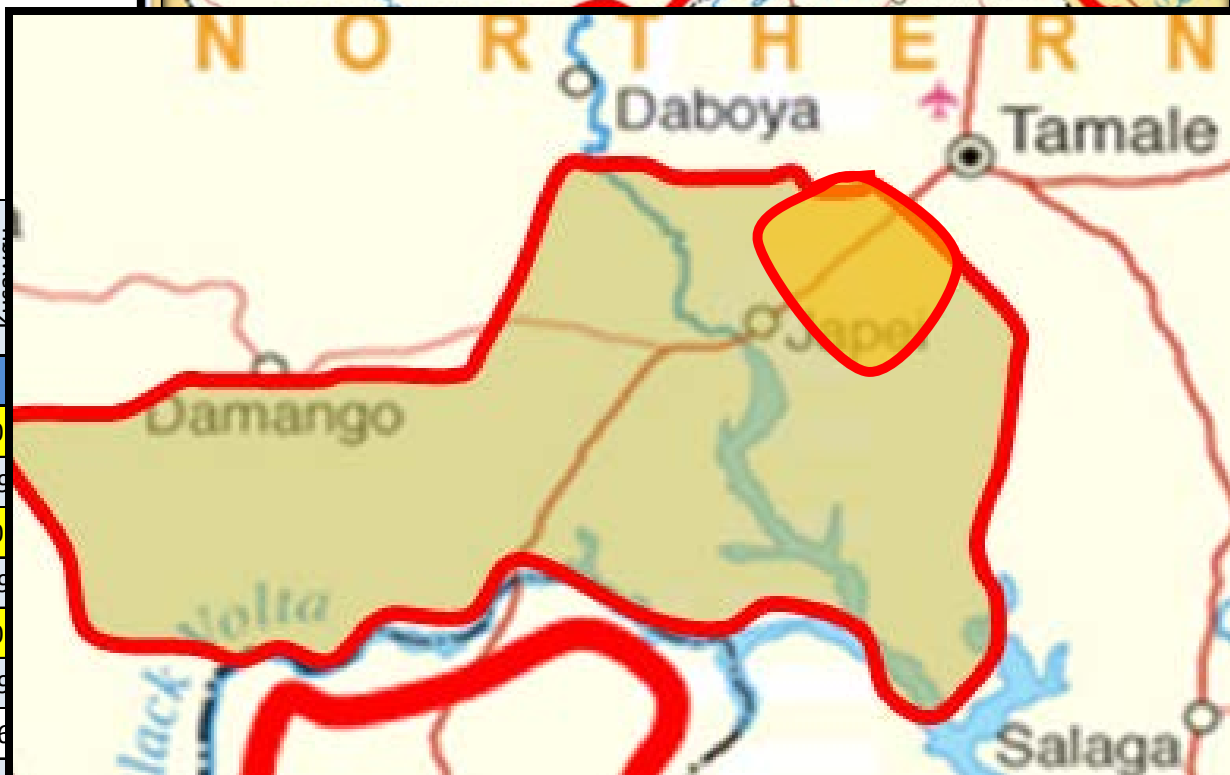|		Upper West	Northern	
	Mothers of Children 12-23 Months			
15	Proportion of children 12-23 months who have received BCG before their first birthday	95.5%	73.8%	
19	Proportion of children 12–23 months who have received measles vaccine before their first birthday	91.0%	64.4%	
20	Proportion of children 12–23 months who were fully vaccinated before their first birthday	87.1%	54.2%	
21	Proportion of children 12–23 months who have received meningitis vaccine during the last campaign	87.4%	79.3%	
22	Proportion of children 12–23 months who have received at least one high dose vitamin A supplement in the last 6 months (card confirmed)	68.3%	35.2%	56.9%

10 Districts in Northern Region: Ghana 2012

...Central Gonja District is identified as the district in need of most support...
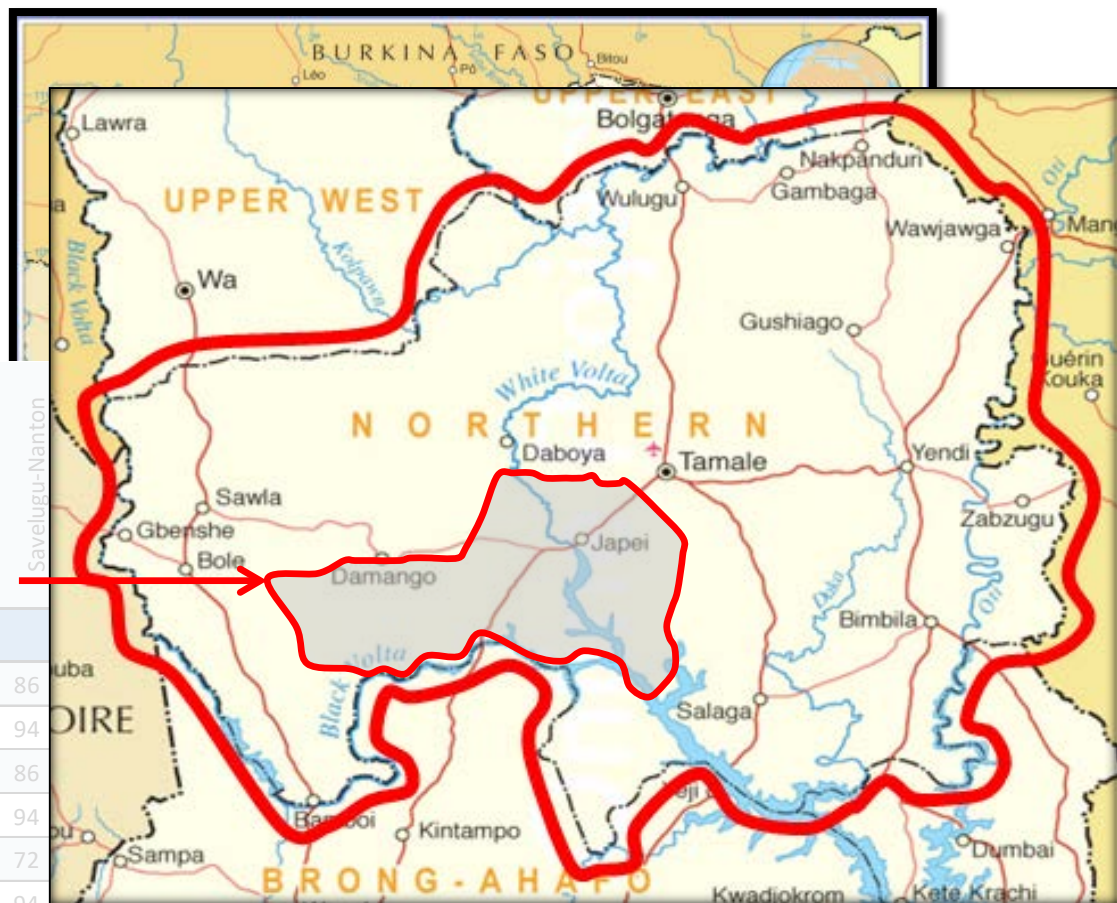
Northern Region	Tolon-Kumbungu	Karaga	Savelugu-Nanton											
Mothers of Children 12-23 Months														
15	Proportion of children 12-23 months who have received BCG before their first birthday	66	64	86										
		95	95	94										
19	Proportion of children 12–23 months who have received measles vaccine before their first birthday	61	62	86										
		95	95	94										
20	Proportion of children 12–23 months who fully vaccinated before their first birthday	41	52	72										
		95	95	94										
21	Proportion of children 12–23 months who have received meningitis vaccine during the last campaign	78	88	72	78	76	58	70	72	88	74		79.3%	2.7%
		95	95	94	94	95	95	95	95	95	95			
22	Proportion of children 12–23 months who have received at least one high dose vitamin A supplement in the last 6 months (card confirmed)	32	27	49	27	26	24	37	53	34	27		35.2%	3.2%
		95	95	94	95	95	95	95	95	95	95			

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5 Supervision Areas in Central Gonja District: Ghana 2012

... and Kusawgu Sub-District is identified as the priority within Central Gonja.

Central Gonja	Buipe	Kusawgu							
Mothers of Children 12-23 Months									
15	Proportion of children 12-23 months who have received BCG before their first birthday	10	0						
		19	19						
19	Proportion of children 12–23 months who have received measles vaccine before their first birthday	7	0						
		19	19						
20	Proportion of children 12–23 months who fully vaccinated before their first birthday	5	0						
		19	19						
21	Proportion of children 12–23 months who have received meningitis vaccine during the last campaign	17	16						
		19	19	19	19	19			
22	Proportion of children 12–23 months who have received at least one high dose vitamin A supplement in the last 6 months (card confirmed)	5	3	8	5	5	28.5%	9%	3
		19	19	19	19	19			

Impact of LQAS Monitoring

Senior Management Using Data to Remedy Problems

Annual Monitoring of Diarrhoea Treatment Behaviours of Mothers with Children 0-23 Months in Jinotega Depto, Nicaragua

% Mothers with Children 0-23 mo.

- 1999

	1999
Prepares Oral Rehydration Therapy Correctly	41%
Use Oral Rehydration Therapy	23%

Annual Monitoring of Diarrhoea Treatment Behaviours
of Mothers with Children 0-23 Months in
Jinotega Depto, Nicaragua

% Mothers with Children 0-23 mo.

1999
2000

41%
38%
23%

Prepares Oral Rehydration Therapy Correctly
Use Oral Rehydration Therapy

Annual Monitoring of Diarrhoea Treatment Behaviours of Mothers with Children 0-23 Months in Jinotega Depto, Nicaragua

% Mothers with Children 0-23 mo.

Legend:
- 1999
- 2000

Prepares Oral Rehydration Therapy Correctly:
- 1999: 41%
- 2000: 43%

Use Oral Rehydration Therapy:
- 1999: 23%
- 2000: 38%
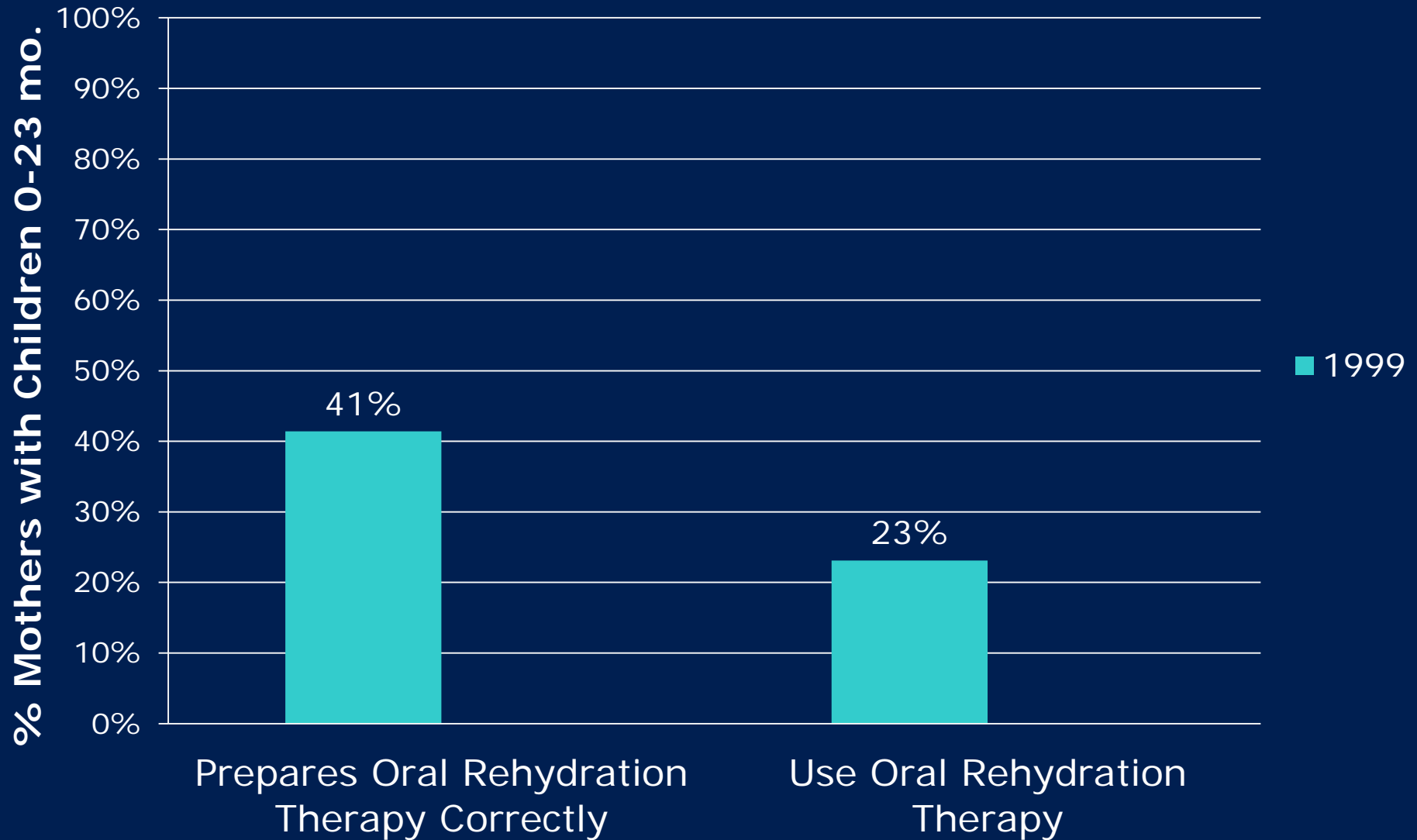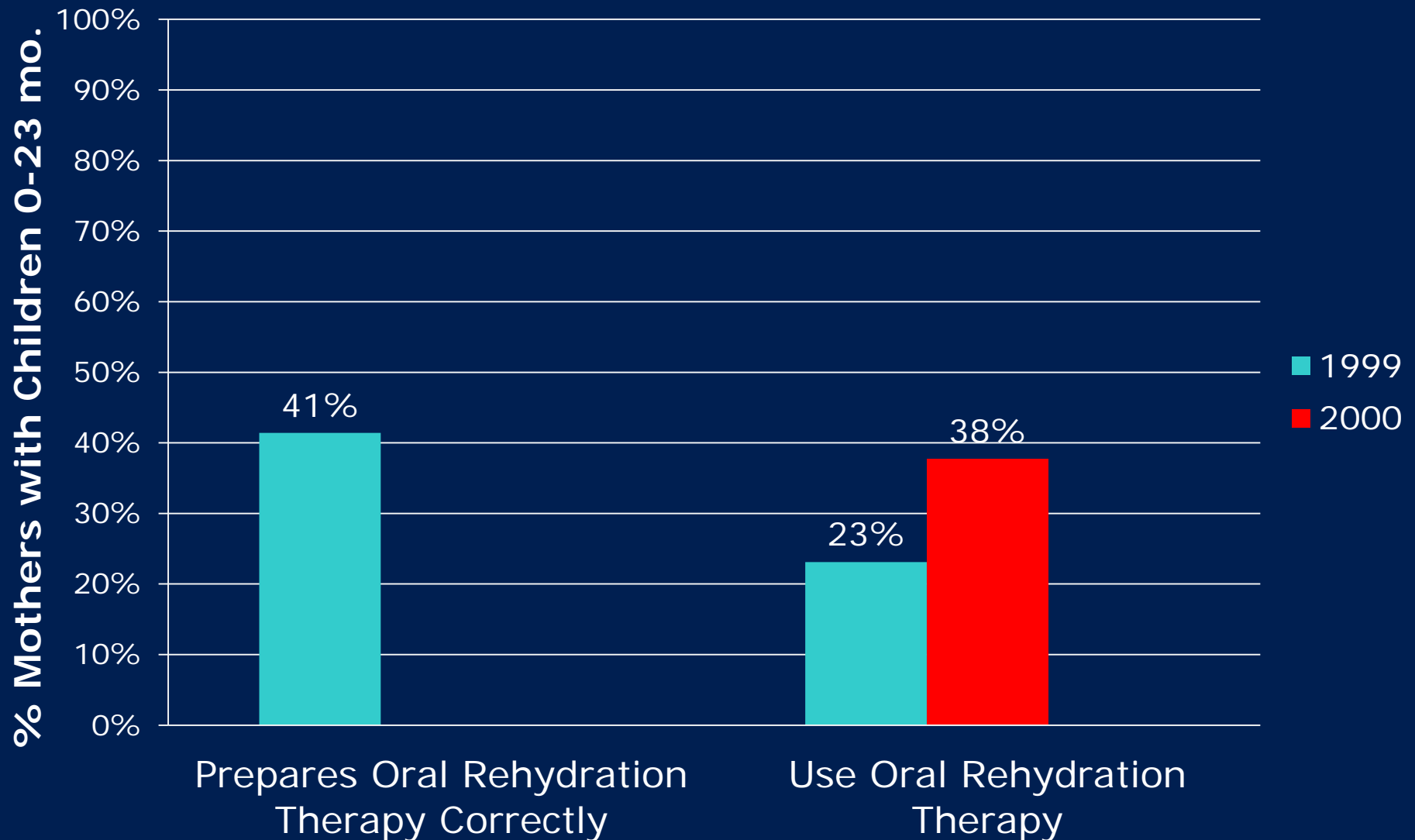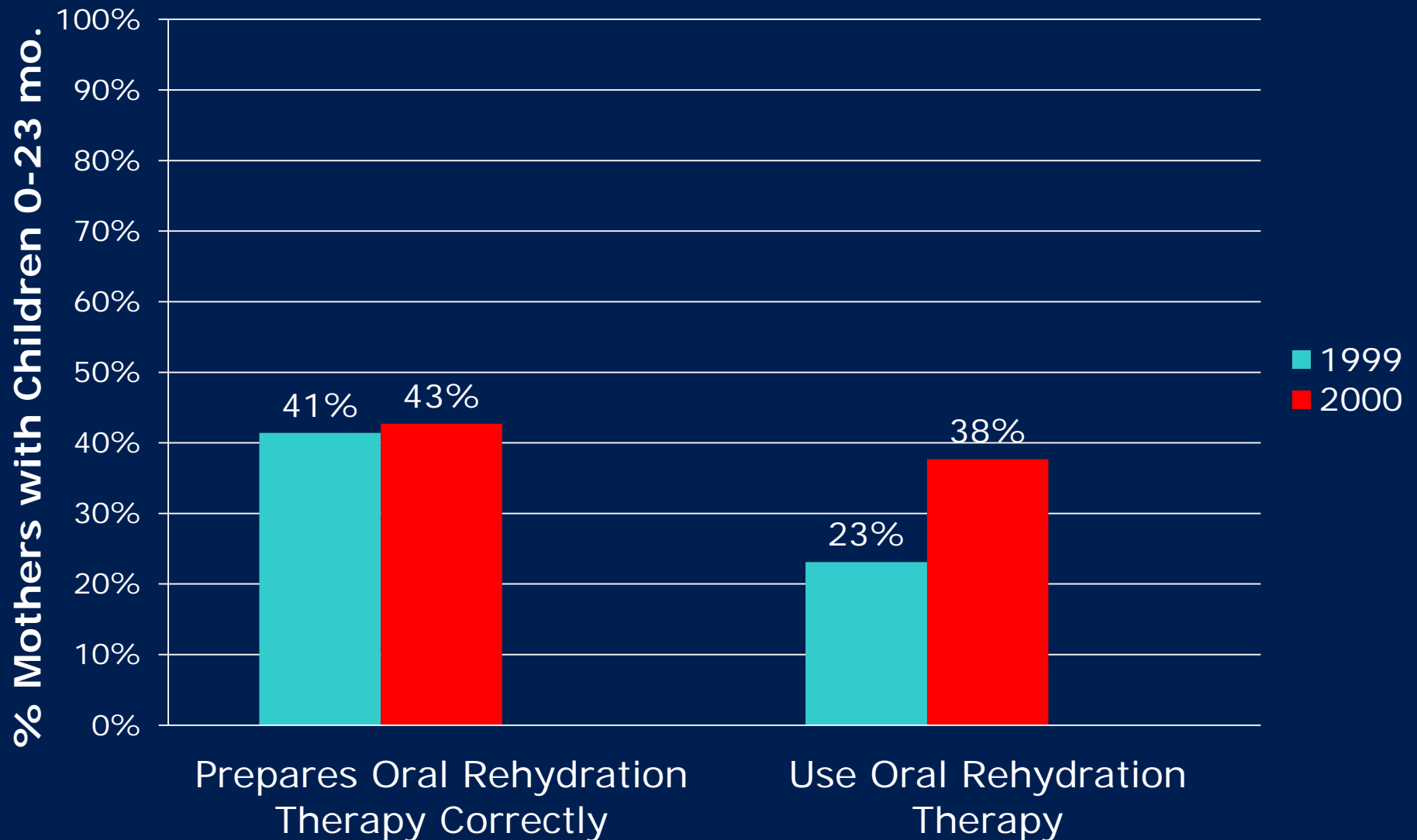
Annual Monitoring of Diarrhoea Treatment Behaviours of Mothers with Children 0-23 Months in Jinotega Depto, Nicaragua
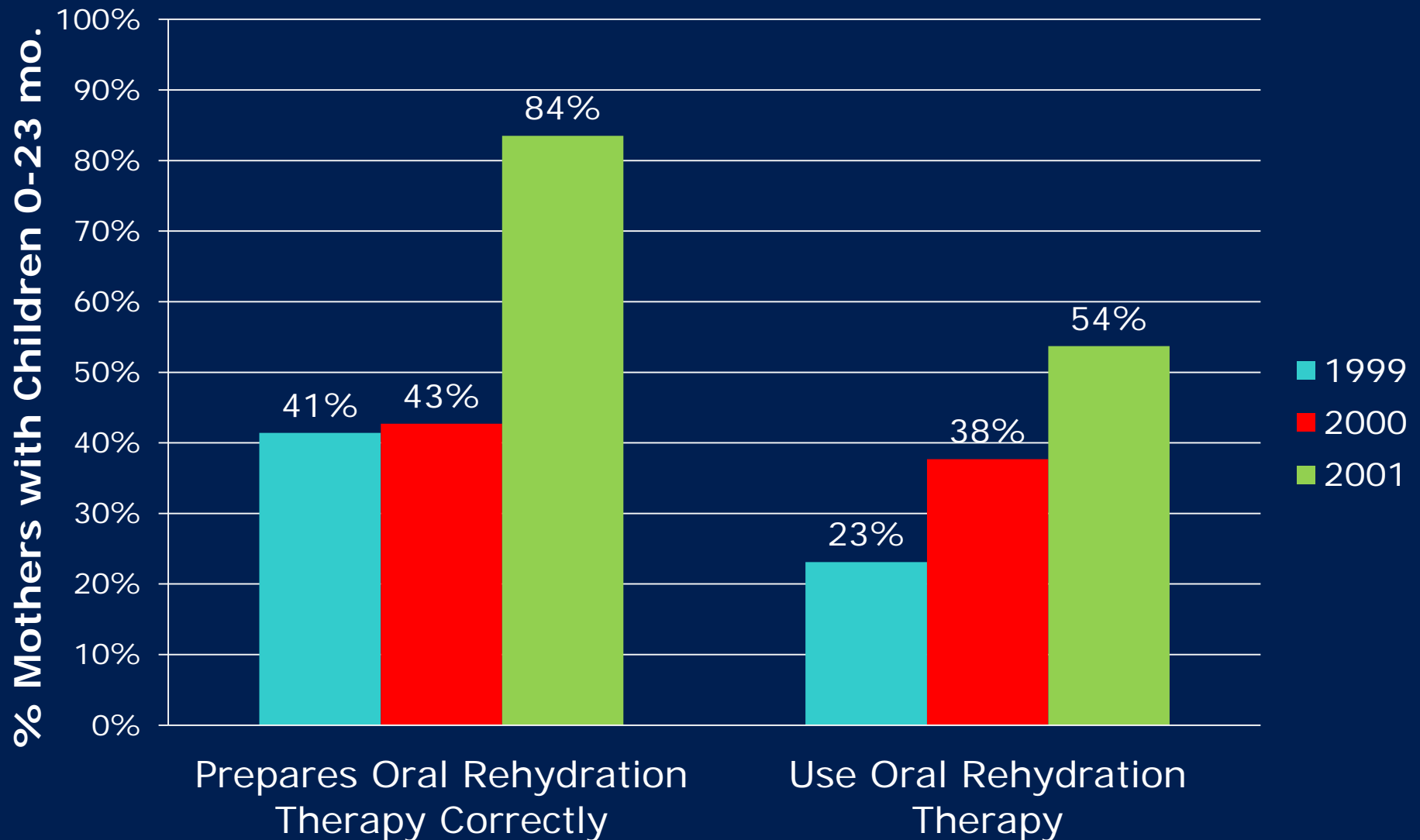
Monitoring District Programs at Several Time Points

Uganda, Nepal, India

UGANDA: 2003 LQAS Was Introduced

Nile River
Project Districts
Arua
Bushenyi
Iganga
Kabale
Kampala
Kamuli
Kamwenge
Kayunga
Kyenjojo
Lira
Masaka
Masindi
Mayuge
Mbale
Mbarara
Mukono
Rakai
Sironko
Wakiso
Lakes
Non-project districts

80   0   80   160   Kilometers
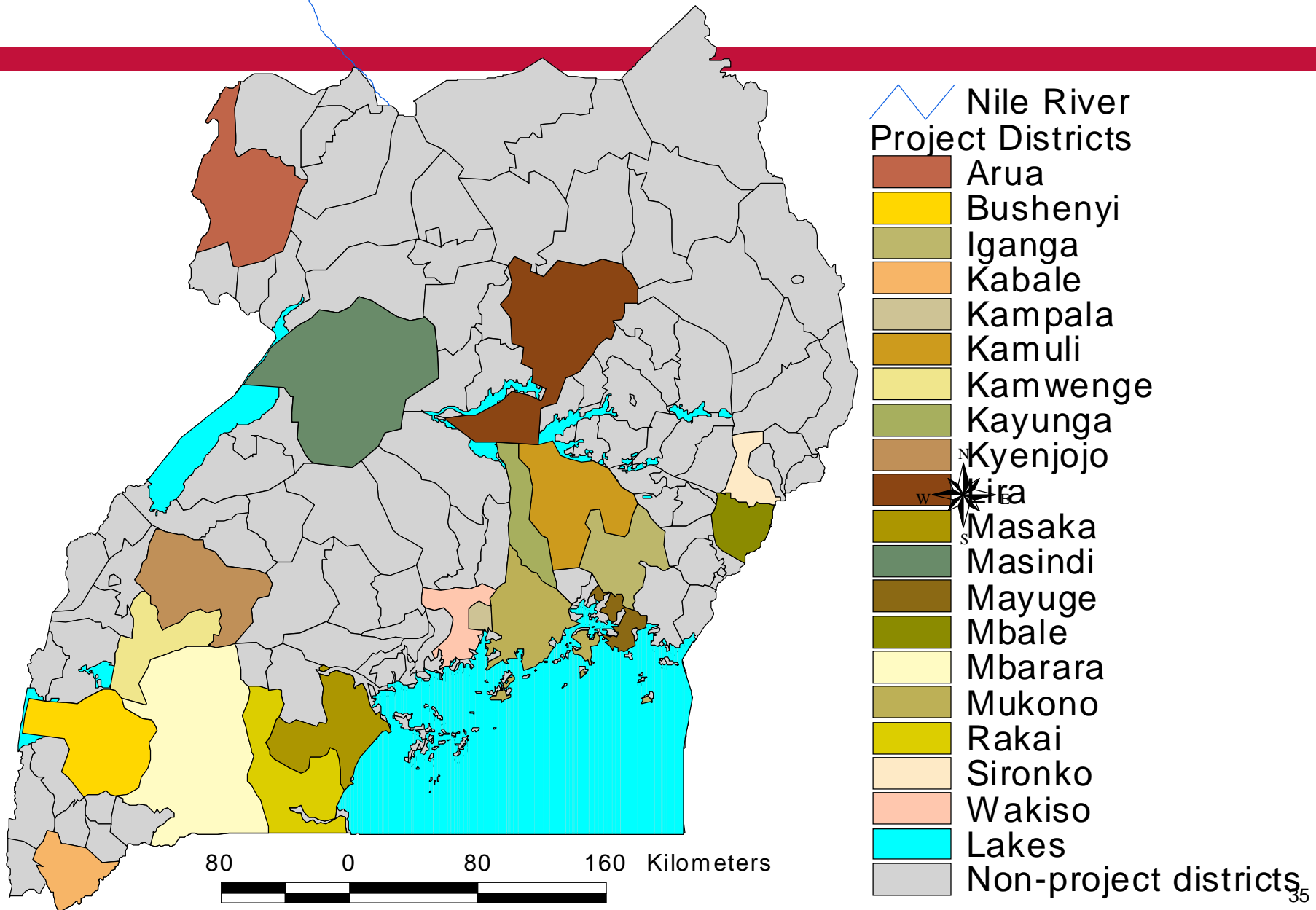
Percentage of mothers who delivered their last baby in a health facility in 2003 and 2004
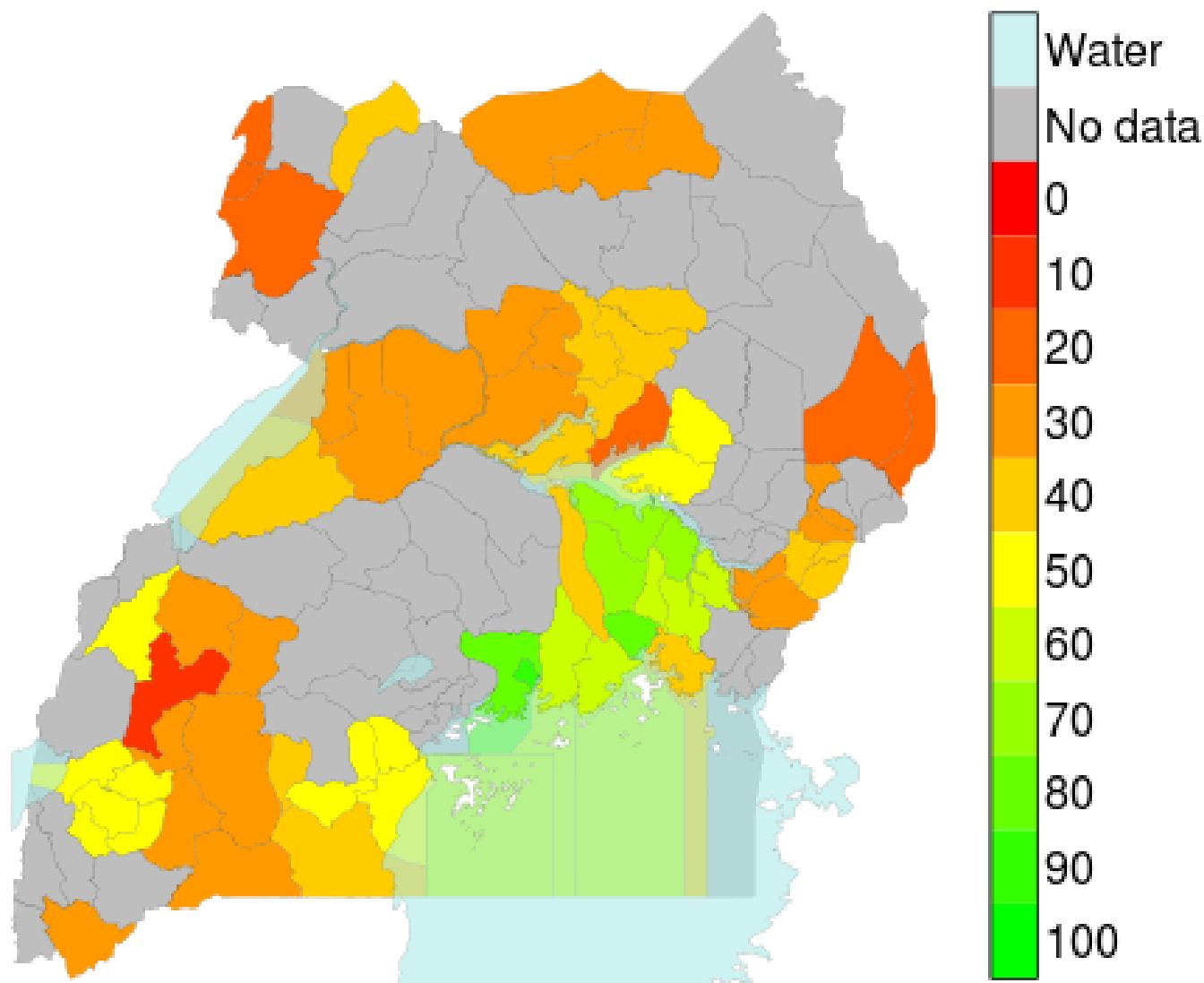
5 Maps Plotting Delivery in a Health Facility: Uganda 2003 - 2012

2003-2004
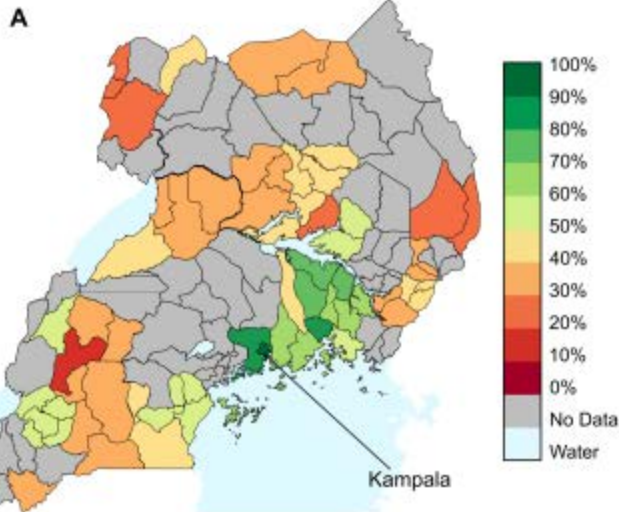
2006
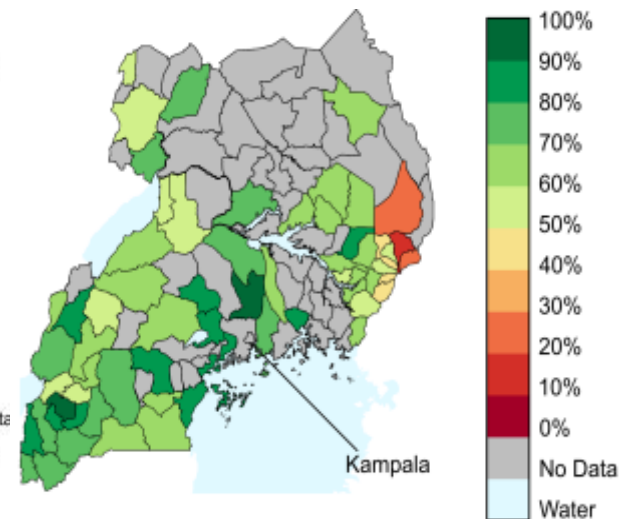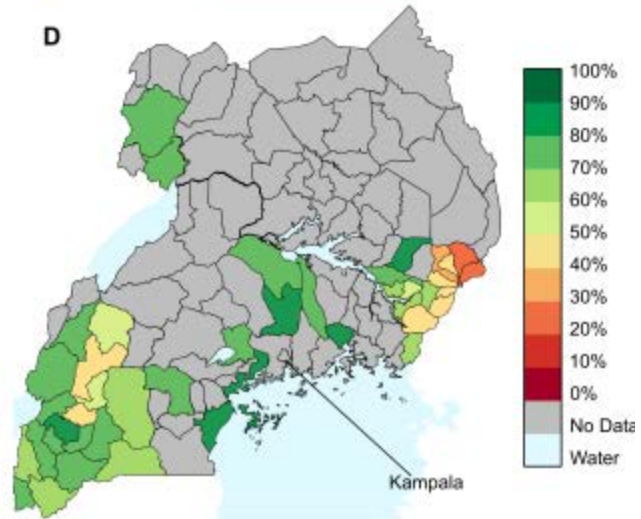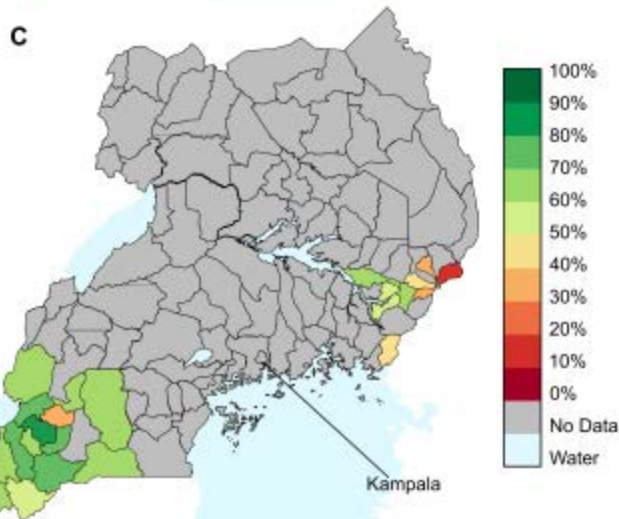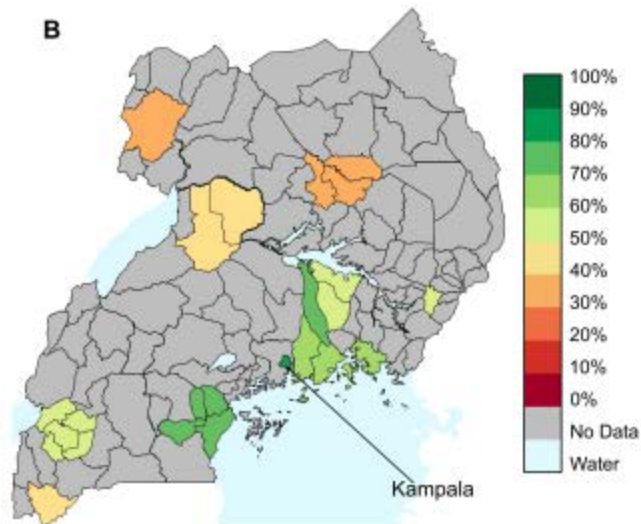
2009-2010

2011

2012

Nepal

Figure 3: ORT Usage in 7 Rural Field Areas in Ratahat and Bara Districts, Nepal: X indicates a Field Area Classified as Unacceptable at each of 4 time points
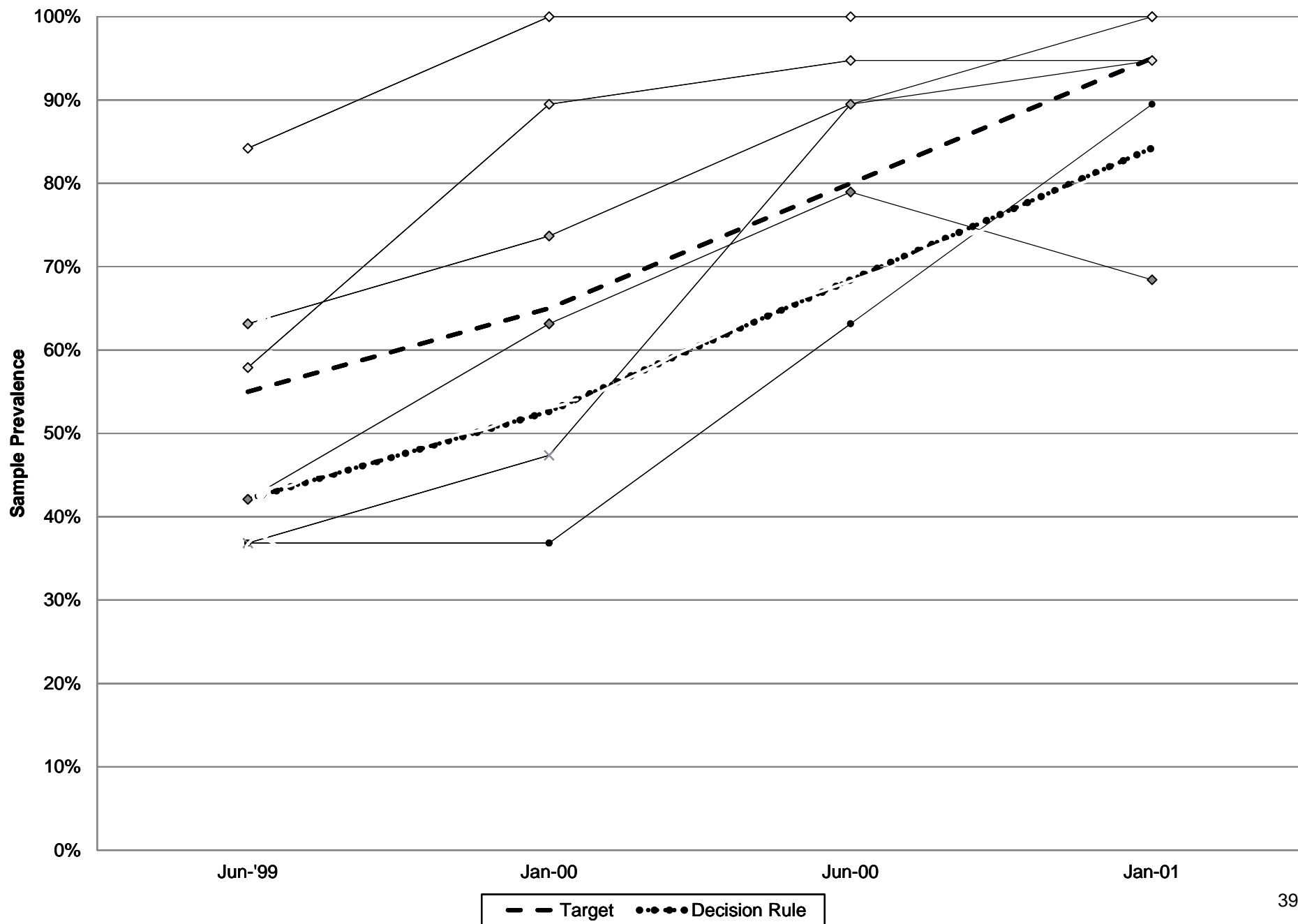
LC-LQAS

**Assessing Some Supervision Areas
Rather Than All of Them**

Large Country LQAS

- LC-LQAS is a response to a need to apply LQAS in countries were it is not practical to monitor all supervision areas at the same time
  - Due to scarce resources or time constraints
- Representative sample of strata (e.g., districts).
  - M&E systems initiated in the selected districts.
  - Sufficient data are available to calculate a point estimate for key indicators (95% confidence intervals) at a macro level (e.g., provincial level)
  - And to classify a critical mass of strata (e.g., districts)
- Initial sample sizes established using data from previous local surveys.
  - For health this can be data coming from DHS studies
  - For education this can be from previous student assessments
  - Later sample sizes are refined using data from the initial sample.

LC-LQAS Samples in Two Countries: Initial and Refined Sample Sizes

Country	Total Strata	n	n*
Kenya (constituencies)	56	20	16
Percent Sampled		36%	29%

LC LQAS – how might this look in Ghana?

We could use data from the 2013 National EGRA to estimate variability within a region. Rough estimates of district sample size for the initial standard setting LQAS would be as follows:

Total Regions	Total Districts	Sampled Districts	Percent sampled
10	216	81	35% per region

Questions?

Let us see if LQAS works.

Exercise A: LQAS Marble Sampling

Group Exercise

GREEN BAG	RED BAG

LQAS Table: Decision rules for Sample Sizes for Achievement Targets and Average Achievement of 10% to 95%
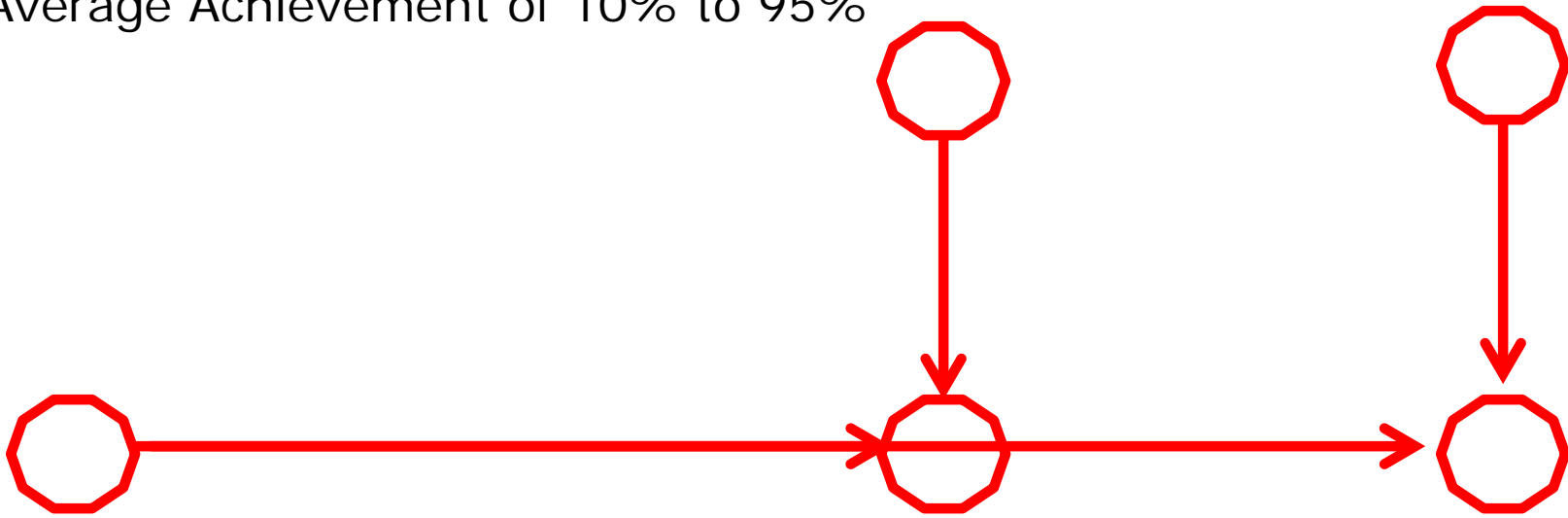
For all Achievement Targets (except where noted) LQAS is at least 92% sensitive and specific

Classification Errors from previous exercises

Samples	Failures	% Correct	
155	6	96%	RED (50% Target)
100	3	98%	GREEN (80% Target)
155	12	92%	Misclassifications of Reds as Greens (False Negatives)

LQAS Pilot for Assessing Literacy in Primary Schools in Ghana

LQAS Education Pilot in Ghana: Purpose

- Evaluate the viability of using LQAS as a tool to routinely monitor the quality of education in Ghana.

- Develop an approach the GES & NIB can use to monitor and help strengthen early grade reading in primary schools.

- The approach must be:
  - Simple,
  - Systematic,
  - Reliable,
  - Efficient, and
  - **Sustainable**

LQAS Education Pilot in Ghana: Selecting Indicators

Selected indicators that research and experience in Ghana have shown are most critical to contributing to early grade learning in Ghana. Indicators must:

– Be strong predictors of literacy outcomes;

– Be relatively easy and reliable to observe and collect data;

– Allow for questions that can be answered with a 'yes'/ 'no' response;

– Be used as a "score card" that is meaningful to stakeholders (including pupils, teachers, community members and education officials) that depicts the quality of the reading program in the district or school.

LQAS Pilot in Ghana

The domain areas included in the LQAS pilot were:

- Pupil engagement
- Pupils' involvement in learning tasks linked to the acquisition of reading competencies
- Teacher characteristics
  - knowledge of subject matter
  - attendance
  - lesson planning
  - time on task
  - feedback to students
- Availability and use of teaching and learning materials.

LQAS Pilot in Ghana

Two tools were developed:

1. Teacher and Classroom Observation instrument (Primarily made up of binary "yes"/ "no" questions)
2. Student reading assessment instrument (EGRA/ASER type test)

The instruments are a combination of survey instrument and user manual.

LQAS Pilot in Ghana

Section 10: English Reading Practice: ENGLISH

No.	Questions and Filters	Coding Categories	Skips (if any)
10. 1	Did the teacher ask pupils to read aloud individually or in pairs during the Reading lesson?	YES...1 NO 0	
10. 2	Did the teacher ask the class to read silently during the Reading lesson?	YES...1 NO 0	
10. 3	Did the teacher ask the whole class to read a passage together during the Reading lesson?	YES...1 NO 0	
10. 4	Did the teacher ask pupils comprehension questions based on what was read?	YES...1 NO 0	

LQAS Pilot in Ghana

Section 6: Availability of Teacher Materials

No.	Questions and Filters	Coding Categories	Skips (if any)
6.1	Does the teacher have the P3 Teacher's Guide in his/her classroom that you can see?	YES .... 1 NO 0	
6. 2	Does the teacher have a summary lesson plan for the day in the lesson notebook? *Note what the main focus of the lesson is today and what activities are planned. Use this information when observing the lesson.*	YES .... 1 NO 0	
6.3	Does the lesson plan refer to the teachers guide, syllabus or scheme of work?	YES .... 1 NO 0	
6. 4	Does the teacher have the Akuapem Twi language syllabus?	YES .... 1 NO 0	
6. 5	Does the teacher have the English language syllabus?	YES .... 1 NO 0	

LQAS Pilot in Ghana – observations from pilot

- Results are tabulated by hand using a series of school level summary sheets (these results may be shared with the school on the day of the visit).

- The summary sheets contain the standards/decisions rules.

LQAS Pilot in Ghana: timeline

3 days of training including two pre-pilot school visits

Using LQAS sampling methods:

- the sample was set at 19 schools per district to classify the district as reaching the standard, and

- 16 students per school to classify each school

RTI staff collaborated with the NIB and GES staff to carry out the 3-day pilot

- For the pilot, findings were tabulated by hand during the 2-day tabulations training workshop.

- Findings were presented by the NIB and GES observers to ministry and donor representatives on the third day of the tabulation workshop.

What do the LQAS Ghana pilot results show? Student Performance Data

Exercise B: Evaluating Minimum Achievement Levels

District Level Student Results:
N=19, District Target= 80%, Decision Rule= 13

Indicator	Schools		District Status
	Achieved Standard	Did Not Achieve Standard	
English: Performance			
Letter recognition	19	0	Pass
Simple word recognition	5	14	Fail
Simple sentence reading	4	15	Fail
Reading a passage	4	15	Fail
Comprehension	2	17	Fail
Akuapem Twi: Performance			
Letter recognition	12	7	Fail
Simple word recognition	1	18	Fail
Simple sentence reading	0	19	Fail
Reading a passage	0	19	Fail
Comprehension	0	19	Fail

GHANA LQAS SURVEY

RESULT TABLE FOR STUDENTS AT A SINGLE SCHOOL

REGION: DISTRICT: SCHOOL:

INSPECTOR: TEACHER OR CLASSROOM #:   DATE OF ASSESSMENT:

RESPONSE KEY: CORRECT=1   NOT CORRECT=0   SKIPPED=S   MISSING=X

N°	Indicator	STUDENT NUMBER																TOTAL	MINIMUM ACHIEVEMENT	DECISION RULE	DECISION RULE MET? (met=1 not met=0)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ENGLISH STUDENT ASSESSMENT																					
section 2	Student able to correctly read 4 or more letters																		50%	6	
section 3	Student able to correctly read 4 or more familiar words																		50%	6	
section 4	Student able to correctly read the 4 simple sentences with no more than 3 errors																		50%	6	
section 5	Student able to read the reading passage in under 3 minutes and with no more than 10 errors																		50%	6	
section 6	Student able to correctly answer 4 or more of the reading comprehension questions correctly																		50%	6	
AKUAPEM TWI STUDENT ASSESSMENT SUMMARY																					
section 7	Student able to correctly read 4 or more letters																		50%	6	
section 8	Student able to correctly read 4 or more familiar words																		50%	6	
section 9	Student able to correctly read the 4 simple sentences with no more than 3 errors																		50%	6	
section 10	Student able to read the reading passage in under 3 minutes and with no more than 10 errors																		50%	6	
section 11	Student able to correctly answer 4 or more of the reading comprehension questions correctly																		50%	6	

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GHANA LQAS SURVEY

RESULT TABLE FOR STUDENTS AT A SINGLE SCHOOL

REGION: **DISTRICT:**   **SCHOOL:**

INSPECTOR: **TEACHER OR CLASSROOM #:**   **DATE OF ASSESSMENT:**

RESPONSE KEY: **CORRECT=1**   **NOT CORRECT=0**   **SKIPPED=S**   **MISSING=X**

N°	Indicator	STUDENT NUMBER																TOTAL	MINIMUM ACHIEVEMENT	DECISION RULE	DECISION RULE MET? (met=1 not met=0)
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section 10	Student able to read the reading passage in under 3 minutes and with no more than 10 errors																		50%	6	
section 11	Student able to correctly answer 4 or more of the reading comprehension questions correctly																		50%	6	

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Group 1

GHANA LQAS SURVEY

RESULT TABLE FOR STUDENTS AT A SINGLE SCHOOL

REGION: EASTERN   DISTRICT: AKUAPEM SOUTH   SCHOOL:

INSPECTOR: TEACHER OR CLASSROOM #:   DATE OF ASSESSMENT: 12/03/2013

RESPONSE KEY: CORRECT=1   NOT CORRECT=0   SKIPPED=S   MISSING=X

Nº	Indicator	STUDENT NUMBER																TOTAL	MINIMUM ACHIEVEMENT	DECISION RULE	DECISION RULE MET? (met=1 not met=0)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ENGLISH STUDENT ASSESSMENT																					
section 2	Student able to correctly read 4 or more letters	1	0	1	1	0	1	1	1	1	0	1	1	1	0	1	1	12	50%	6	1
section 3	Student able to correctly read 4 or more familiar words	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50%	6	0
section 4	Student able to correctly read the 4 simple sentences with no more than 3 errors	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	50%	6	0
section 5	Student able to read the reading passage in under 3 minutes and with no more than 10 errors	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	50%	6	0
section 6	Student able to correctly answer 4 or more of the reading comprehension questions correctly	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	50%	6	0
AKUAPEM TWI STUDENT ASSESSMENT SUMMARY																					
section 7	Student able to correctly read 4 or more letters	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2	50%	6	0
section 8	Student able to correctly read 4 or more familiar words	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50%	6	0
section 9	Student able to correctly read the 4 simple sentences with no more than 3 errors	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	50%	6	0
section 10	Student able to read the reading passage in under 3 minutes and with no more than 10 errors	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	50%	6	0
section 11	Student able to correctly answer 4 or more of the reading comprehension questions correctly	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	0	50%	6	0

Group 2

RESULT TABLE FOR STUDENTS AT A SINGLE SCHOOL

REGION:	DISTRICT:	SCHOOL:
INSPECTOR:	TEACHER OR CLASSROOM #:	DATE OF ASSESSMENT:

RESPONSE KEY: CORRECT=1 NOT CORRECT=0 SKIPPED=S MISSING=X

N°	Indicator	STUDENT NUMBER																TOTAL	MINIMUM ACHIEVEMENT	DECISION RULE	DECISION RULE MET? (met=1 not met=0)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ENGLISH STUDENT ASSESSMENT																					
section 2	Student able to correctly read 4 or more letters	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	13	50%	6	1
section 3	Student able to correctly read 4 or more familiar words	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	3	50%	6	0
section 4	Student able to correctly read the 4 simple sentences with no more than 3 errors	S	S	S	1	S	S	S	1	S	S	S	S	S	1	S	S	3	50%	6	0
section 5	Student able to read the reading passage in under 3 minutes and with no more than 10 errors	S	S	S	1	S	S	S	1	S	S	S	S	S	1	S	S	3	50%	6	0
section 6	Student able to correctly answer 4 or more of the reading comprehension questions correctly	S	S	S	0	S	S	S	0	S	S	S	S	S	1	S	S	1	50%	6	0
AKUAPEM TWI STUDENT ASSESSMENT SUMMARY																					
section 7	Student able to correctly read 4 or more letters	0	1	1	1	1	0	1	1	1	0	1	0	1	1	1	0	11	50%	6	1
section 8	Student able to correctly read 4 or more familiar words	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	50%	6	0
section 9	Student able to correctly read the 4 simple sentences with no more than 3 errors	S	S	S	1	S	S	S	S	S	S	S	S	S	1	S	S	2	50%	6	0
section 10	Student able to read the reading passage in under 3 minutes and with no more than 10 errors	S	S	S	1	S	S	S	S	S	S	S	S	S	1	S	S	2	50%	6	0
section 11	Student able to correctly answer 4 or more of the reading comprehension questions correctly	S	S	S	0	S	S	S	S	S	S	S	S	S	0	S	S	0	50%	6	0

Group 3

GHANA LQAS SURVEY

RESULT TABLE FOR STUDENTS AT A SINGLE SCHOOL

REGION: EASTERN | DISTRICT: AKWHIM SOUTH | SCHOOL:

INSPECTOR: | TEACHER OR CLASSROOM #: | DATE OF ASSESSMENT: 12/03/13

RESPONSE KEY: CORRECT=1 NOT CORRECT=0 SKIPPED=S MISSING=X

N°	Indicator	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL	MINIMUM ACHIEVEMENT	DECISION RULE	DECISION RULE MET? (met=1 not met=0)
ENGLISH STUDENT ASSESSMENT																					
section 2	Student able to correctly read 4 or more letters	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	50%	6	1
section 3	Student able to correctly read 4 or more familiar words	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	7	50%	6	1
section 4	Student able to correctly read the 4 simple sentences with no more than 3 errors	0	1	S	1	S	S	S	9	S	S	S	1	1	1	0	0	5	50%	6	0
section 5	Student able to read the reading passage in under 3 minutes and with no more than 10 errors	S	1	S	1	S	S	S	S	S	S	1	1	1	S	S		5	50%	6	0
section 6	Student able to correctly answer 4 or more of the reading comprehension questions correctly	S	1	9	1	S	S	9	S	S	S	S	0	0	1	S	S	3	50%	6	0
AKUAPEM TWI STUDENT ASSESSMENT SUMMARY																					
section 7	Student able to correctly read 4 or more letters	1	1	1	1	1	0	0	0	0	1	1	1	1	1	0	0	10	50%	6	1
section 8	Student able to correctly read 4 or more familiar words	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0		3	50%	6	0
section 9	Student able to correctly read the 4 simple sentences with no more than 3 errors	S	1	1	9	S	S	9	S	S	S	S	1	S	S	S	S	3	50%	6	0
section 10	Student able to read the reading passage in under 3 minutes and with no more than 10 errors	S	1	1	9	S	S	S	9	S	S	S	1	S	S	S	S	3	50%	6	0
section 11	Student able to correctly answer 4 or more of the reading comprehension questions correctly	S	0	1	S	9	S	9	S	S	S	S	1	S	S	S	S	2	50%	6	0

65

LQAS Pilot in Ghana – Setting Decision Rules

- How do student performance levels differ at these 3 different schools?

- How do the total scores differ? How does the decision rule differ?

- Given that LQAS was designed to identify the schools in most need of assistance, would you suggest any changes to the minimum achievement levels?

    - Should any achievement standards be decreased? Should any be increased? Why or why not (refer to the district student performance table to inform your decision)?

    - Should achievement levels be uniform across these reading skills? Why or why not?

LQAS Pilot in Ghana – Setting Decision Rules

- Look at the results from your school. Now try reducing the achievement target to 45% of students.

  - Consult the LQAS Table to set your new decision rule? Do the results at your school change?

- Now try reducing the achievement target to 35% of students.

  - What is the decision rule?

  - Do the results at your school change?

What do the LQAS Ghana pilot results show?

Classroom Performance Data

District Level Teacher and Classroom Results: n=19, District Target= 80%, Decision Rule= 13		Schools		District target met? Target=80% DR = 13)
Indicator	**Standard**	**Achieved Standard**	**Did Not Achieved Standard**	
Teacher attendance at start of the school day	90%	6	13	Fail
Student attendance	90%	8	11	Fail
ENGLISH: Teaching				
Student engagement	Majority of pupils actively engaged	16	3	Pass
Time on task	Lesson had to last at least 30 minutes, and the teacher should be on an appropriate unit in the student reader for this time of the school year	8	8 [a]	Fail
Reading practice	Students read aloud individually or in pairs Teacher asks students to read silently or asks comprehension questions	11	8	Fail
Availability of teacher materials [c]	Teacher had P3 teacher's guide and the English syllabus	9	10	Fail
Availability of pupil readers	Books available for at least 50% of students	4	15	Fail
Availability of pupil exercise books (among students who were selected to participate in the student assessment)	Books available for at least 50% of students	19	0	Pass
Teacher materials used	Teacher used the P3 teacher's guide or the English syllabus	12	7	Fail

Exercise C: Setting Achievement Targets

Five Supervision Areas (School Districts) & One Indicator

District: A, B, C, D or E			
Indicator: Lesson is 30+ minutes and teacher uses appropriate unit for time of school year	Number Correct	Teaching Standard = **80%** of Schools Pass	Is the Decision Rule reached? Yes or No
Supervision Area A	12		No
Supervision Area B	8		No
Supervision Area C	16	Decision Rule = **13**	Yes
Supervision Area D	12		No
Supervision Area E	14		Yes

1. Use LQAS table to verify Decision Rule.

2. Is the Decision Rule reached for each Supervision Area (school district)? Yes or No?

3. Can you identify Supervision Areas that are your priorities?

4. If yes, which are they? If not, why can't you identify them?

5. What is the status of the Region as a whole?

Five Supervision Areas (School Districts) & One Indicator

SUPERVISION AREA: A, B, C, D or E			
Indicator: Lesson is 30+ minutes and teacher uses appropriate unit for time of school year	Number Correct	Average Teaching Standard Achieved = **70%**	Is the Decision Rule reached? Yes or No
Supervision Area A	12		Yes
Supervision Area B	8		No
Supervision Area C	16		Yes
Supervision Area D	12	Decision Rule = **11**	Yes
Supervision Area E	14		Yes

1. Add Number Correct in all SAs: 12 + 8 + 16 + 12 +14 = **62**
   Add all Samples' Sizes: 19 + 19 + 19+ 19 + 19 = **95**
   Coverage Estimate = Average Coverage = 62/95 = **65.3% = 70% when rounded**

2. Use LQAS table to verify Decision Rule.

3. Is the Decision Rule reached for each Supervision Area (school district)? Yes or No?

4. Can you identify Supervision Areas that are your priorities?

5. If yes, which are they? If not, why can't you identify them?

6. What is the status of the Region as a whole?

Five Supervision Areas (School Districts) & One Indicator

SUPERVISION AREA: A, B, C, D or E				
Indicator: Lesson is 30+ minutes and teacher uses appropriate unit for time of school year	Number Correct	Teaching Standard = **80%** of Schools DR = 13	Is the Decision Rule reached? Yes or No	
			Target	Average
Supervision Area A	12		Yes	Yes
Supervision Area B	8		No	No
Supervision Area C	16	Average Teaching Standard Achieved = **65.3%** DR = 11	Yes	Yes
Supervision Area D	12		No	Yes
Supervision Area E	14		Yes	Yes

1. Add Number Correct in all SAs: 12 + 8 + 16 + 12 +14 = **62**
   Add all Samples' Sizes: 19 + 19 + 19+ 19 + 19 = **95**
   Coverage Estimate = Average Coverage = 62/95 = **65.3% = 70% when rounded**

2. Use table to verify Decision Rule.

3. Is the Decision Rule reached for each Supervision Area (school district)? Yes or No?

4. Can you identify Supervision Areas that are your priorities?

5. If yes, which are they? If not, why can't you identify them?

6. What is the status of the Region as a whole?

Five Supervision Areas (School Districts) & One Indicator: Worksheet

Indicator: Teacher had P3 teacher's guide and the English syllabus	Number Correct	Target/Standard = **80%**	Is the Decision Rule reached? Yes or No	
		Decision Rule =	Target	Average
Supervision Area A	7	**13**	No	Yes
Supervision Area B	3		No	No
Supervision Area C	2	Average =	No	No
Supervision Area D	13	**38.5**	Yes	Yes
Supervision Area E	12	Decision Rule = **5**	No	Yes

Questions:

1. What is the Target/Standard for a school district? Use national teaching standards?

2. What is the Average Regional achievement? Add number of School passes in all SAs:

   $7 + 3 + 2 + 13 + 12 = 37$

   Add all sample sizes: $19 + 19 + 19 + 19 + 19 =$ ___**95**___

   Average Achievement =

   ___**37**___ / ___**95**___ = __**38.5**__ %

3. What is the Decision Rule for the Target / Standard?

4. What is the Decision Rule for the Average Achievement?

5. Is the Decision Rule reached? Yes or No?

6. Can you identify Supervision Areas that are your priorities?

If yes, which are they? If not, why can't you identify them?

Exercise D: Interpreting Results

Supervision Area A & Five Indicators

	Indicators	Number Correct	Target/ Standard	Regional Average Achiev't	Decision Rules: Tgt Ave		Is the Decision Rule met? Yes or No	
1	Lesson is 30+ minutes and teacher uses appropriate unit for time of school year	14	80%	45%	13	6		
2	Teacher had P3 teacher's guide and the English syllabus	12	70%	60%	11	9		
3	Readers available for 50%+ of students	5	60%	45%	9	6		
4	Exercise books available for 50%+ of students	8	60%	35%	9	4		
5	Teacher used P3 teacher's guide or the English Syllabus	11	70%	30%	11	3		

Questions:

1. Can you identify indicators that are your priorities? Yes

2. If yes, which indicators are they? If not, why can't you identify them? 3 and then 4

Comparing Supervision Areas A, B, C, D, & E
For National Target Achievement

Indicators		Supervision Area				
		A	B	C	D	E
1	Lesson is 30+ minutes and teacher uses appropriate unit for time of school year	Y	N	N	Y	Y
2	Teacher had P3 teacher's guide and the English syllabus	Y	Y	Y	N	Y
3	Readers available for 50%+ of students	N	N	Y	N	Y
4	Exercise books available for 50%+ of students	Y	Y	N	N	Y
5	Teacher used P3 teacher's guide or the English Syllabus	Y	Y	Y	N	Y

Questions:

1. Which Supervision Area(s) appears to be performing the best for all 5 indicators: A, B, C, D, or E? **E then A B**

2. Which SA(s) appears to need the most support for their overall program: A, B, C, D, or E? **D then B C**

3. Which indicator(s) needs improvement across most of the catchment area? **3 then 1 4**

4. Which indicator(s) needs improvement in only a few SAs? **2 and 5**

5. For these weaker indicators:
   - Which SA(s) needs special attention? **A B D then C**

Questions?

Observations from the LQAS Pilot Implementation

LQAS Pilot in Ghana

We worked with the NIB and the GES to establish an LQAS task force to provide input into and approval of the:

- indicators,

- establishment of minimum standards,

- design of the pilot (including the sample design), and

- selection of pilot participants

LQAS Pilot in Ghana – Observations from the pilot

- The 'taskforce' (collaborative) approach to the protocol development/review and data collection process by the key stakeholders (CRDD, NIB, ASU/NEAU, Basic Education, Inspectorate) ensured credibility and unity of purpose.

- The training of data collectors (who were mostly CRDD and NIB staff) and trialing of initial draft of the instrument offered an opportunity for further indicator review and the task ahead.

LQAS Pilot in Ghana – Observations from the pilot

- Observers or data collectors found the protocols/tools:
  - quick, simple and straightforward to administer
  - provide reliable, easily interpretable and useable data
- Observers believed the protocols provide opportunities for monitoring, targeting of interventions and school support as they **quickly pointed out problems** in reading instruction (teaching and learning)
- The scoring/tabulation process was easy.

LQAS Pilot in Ghana – Lessons Learned

- Overall time spent on administering all protocols (including 16 individual pupils assessment + observing full reading lesson + teacher assessment) was too long. Observers suggest that group administration should be considered.

- Some of the Standards need to be revised. In particular, the minimum standards for the teaching practice need to be increased/revised – we were getting false positives

- Student performance standards may need to be lowered if you really want to use LQAS to target assistance to the lowest performing schools

- Collaborating closely with local Ministry staff is essential

Questions?

LQAS Next Steps

- Started incorporating aspects of approaches and instruments from the LQAS pilot into monitoring programs of other projects (Jordan, Zambia, etc.)

- Continue to refine tools (in particular the group administered test)

- Explore ways to link LQAS data to district level performance incentive grants

- Develop a summary card that can be left with schools

- Exploring and evaluating use of cell phones and tablets to collect monitoring data.

LQAS – how might this look for routine district level monitoring in Ghana?

- Assuming 10 circuit supervisors per district, if each circuit supervisor visited one randomly selected school per month, we would have more than enough data to provide each district with quarterly LQAS results.

- If semi annual results would be sufficient, each circuit supervisor would just have to visit 2 schools every 4.5 months (as the school runs on a 9 month calendar).

- As a point of reference, circuit supervisors are currently expected to visit each school in their circuit every month.

END