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## **Liberia Teacher Training Program**

### ***Data Utilization for Educational Development in Liberia***

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## Acronyms

EMIS	Education Management Information System
LTPP	Liberia Teacher Training Program II
MER	Monitoring, Evaluation, and Research
MoE	Ministry of Education
UNESCO	United Nations Education Science and Culture Organization
USAID	United States Agency for International Development

## Executive Summary

This study examines the following issues in relation to staff in the central MoE, the county education offices (CEOs), and district education offices (DEOs) in Liberia: a) frequency of data utilization for decision making, b) factors limiting the use of data for decision making, c) helpfulness of various types of data for informing decisions, and d) capacity of staff to use data to inform their decisions. Data were collected during the summer of 2015, asking respondents to report on the then current situation as well as to report, retrospectively, on the situation that obtained during the 2013-2014 school year. Thus, the findings on these four issues can be compared across staff categories and across years.

With respect to the frequency of data utilization for decision making, we found that overall DEO staff (mean score equals 3.0, or “once a quarter”) reported that they more frequently data for decision making than either central MoE or CEO staff (respectively, mean score equals 2.4-2.5 or 2.3, between “once per fiscal year” and “once a quarter”). Comparing the types of data they more frequently used, all three levels of education sector staff indicated that they frequently used data about the overall number of teachers in their decisions, with the number qualified teachers accorded similar importance. One interesting contrast regards data on the existence of a PTA. While CEO and DEO staff identified this as one of their most frequent types of data to inform their decisions, for the MoE staff this was one of the least frequent types of data they used. Another contrast involves data on the water source. MoE staff (but not CEO or DEO staff) rated the source of water as one of the types of data they most often used to inform their decisions. Moreover, given the importance of water for hand-washing and other hygiene, especially in the post-Ebola era, it is noteworthy that this is the only type of data which any of the respondent groups (in this case the MoE staff) reported a statistically significant increase between 2013-2014 and 2015.

When focusing on factors that limited data utilization for decisions, we observed that overall DEO staff (mean score equal 2.5, half way between a “limited extent” and a “moderate extent”) reported that the various factors limited their use of data more so than either central MoE or CEO staff (respectively, mean score equals 2.1-2.2 or 1.9, approximately a “limited extent”). Comparing the factors that limited data utilization, we found that central MoE and CEO staff both rated the “quality or accuracy of data” as the one that limited their use of data the most. While DEO staff rated this factor relatively highly, for them the factor that limited data utilization the most was the “relevance of the data to decisions.” The factors that had the least limiting impact on data utilization varied across respondent groups. For the central MoE staff it was the “capacity to do advanced data analysis;” for the CEO staff it was “access to the internet;” and DEO staff rated three factors equally low: “data not being current,” “capacity to do advanced data analysis,” and “capacity to interpret basic statistics.” Furthermore, there was only one factor for one respondent group that was statistically significantly different when comparing the average responses between the 2013-2014 and 2015 school years. In this instance, DEO staff reported that the factor, “capacity to determine data sources,” had reduced the extent to which it impacted their use of data for decision making.

In terms of the helpfulness of various types of data to inform decision making, we noted that on average DEO staff (mean score equals 3.1-3.2, slightly above “helpful”) rated the various sources of data for decision making as somewhat more helpful than CEO staff (mean score equals 2.5-2.7, about halfway between “somewhat helpful” and “helpful”), who gave somewhat higher helpfulness ratings than DEO staff (mean score equals 2.2-2.3, somewhat above “somewhat helpful”). Comparing the different types of data in terms of their helpfulness to inform decisions, we found that central MoE staff reported the “EMIS database” was most helpful, CEO staff rated “discussion/interaction with students” and “personal experiences” as most helpful, and DEO staff identified three data sources as most helpful: “discussions with principals,” “discussion with education partners,” and “personal experiences.” It is worth mentioning that “personal experiences” was also rated as one of the most helpful data sources by central MoE staff, though other data sources were rated slightly higher. Not surprisingly, central MoE staff rated “discussions with principals” and “discussions with parents/community members” as the least helpful data source, given the likely limited opportunity for such staff to interact with these groups. Meanwhile, CEO staff identified “payroll reports” as least helpful in informing their decisions, while DEO staff reported the following data sources as least helpful: “policy documents and guidelines,” “discussions with board members,” and “formal research and evaluation studies.” Additionally, for MoE staff there was only one data source that was reported as becoming statistically significantly more helpful in informing their decisions (“discussion with teachers), while for DEO staff there were two data sources (“personnel files” and “policy documents and guidelines”). In contrast, CEO staff indicated that 10 of the 19 data sources became statistically significantly more important to inform their decision making: annual school census forms, payroll reports, personnel files, forms submitted by principals when requesting replacement/additional teachers, school records (attendance, inventory, etc.), observation of teaching and learning, discussions with principals, discussions with teachers, observations during school visits, and discussions with central MoE staff.

With regard to capacity to use data to inform decisions, we found that on average DEO staff (mean score equals 3.5, half way between “moderate” and “high”) reported their capacity as higher than either central MoE or CEO staff (respectively, mean score equals 2.4-2.5 or 2.3-2.4, approximately half way between “low” and “moderate”). Comparing the different types of decisions which could be informed by data, central MoE staff rated their capacity as highest on using data for “deciding needs for teacher training.” In contrast, both CEO and DEO staff gave top ratings to their capacity to using data for “deciding which schools need teaching and learning materials, while DEO staff also rated their capacity to use data for “deciding needs for instructional supervision.” And both central MoE and DEO staff rated lowest their capacity to use data for “deciding needs for teacher retirement.” For CEO staff, they rated lowest their capacity to use data for “deciding where new schools should be located,” while DEOs also rated quite low their capacity for using data for “deciding the amount for school grants.” Furthermore, only one statistically significant increase in perceived capacity to use data to inform a type of decision was found for central MoE staff (“deciding the amount for school grants”) and only one for DEO staff (“deciding which schools need better quality classrooms”). In contrast, CEO staff reported that their capacity to use data had statistically significantly increased for five types of decisions: deciding needs for teacher recruitment, deciding needs for teacher retirement, deciding which schools need additional

classrooms, deciding which schools need additional latrines, and deciding which schools need better quality latrines.

That between the 2013-2014 school year (before the Ebola emergency) and the 2015 school year (as the Ebola emergency wanes) there were no significant changes in central MoE, CEO, and DEO staff's utilization of data for decision making can be seen as an accomplishment. It indicates that either the systemic use of data for decision making was not greatly affected by the Ebola emergency or that the various levels of the system were resilient, that is, able to recover to their previous states before the emergency. Similarly, one can recognize as an accomplishment that central MoE and DEO staff did not decline in their capacity to use data to inform various types of decisions. Perhaps even a great cause for celebration is the fact that CEO staff seem to have increased their capacity to use data to inform key decisions.

Although we are not in a position to identify the specific impact of the technical assistance and capacity building undertaken by the Liberia Teacher Training Program, it seems likely that the project's interventions have contributed to the education system's resilience and even growth during this difficult period in the history of Liberia.

## Introduction

In line with the international call for “developing systems for the collection of information, data analysis, research and innovations as tools to improve policy decision-making” (*Dakar Framework for Action*, April 2000, pp. 40-41), the Republic of Liberia in its efforts to improve educational quality has committed to evidence-based decision making – or what others have termed “knowledge use” in decision making (Dunn, 1986, p. 369) and “research utilization in decision making” (Weiss, 1991, p. 179). That is, rather than only drawing on assumptions and theories, communication and argumentation, tradition, or experience, decision makers draw on official statistics, research and evaluations studies when establishing or reforming policies, developing or refining plans, and implementing or adapting policies and plans (see Ginsburg et al., 2011).

For example, the *Education Reform Act of 2011* identifies the following as among the functions of the Department for Planning, Research and Development:

- Facilitate the development and implementation of a management information system that will include, but not be limited to, educational statistics, national demographics records, etc.;
- Assemble, analyze and report or submit adequate educational information for timely decision making. (Republic of Liberia, 2011, pp. 18-19)

Furthermore, in of Liberia's *Education Sector Plan, 2010-2020*, one of the specific policy objectives listed in the section on “management and financing the education system” is “to improve the Education Management Information System (EMIS) and the analysis and use of EMIS data,” while one of the strategy-related actions of highest priority is the “training of relevant staff in County and District Education Offices on data entry, analysis and reporting of information collected from

educational institutions” (MoE, 2010, p. xvii). The *Education Sector Plan* (MoE, 2010) elaborates subsequently that:

- One clear challenge is the lack of effective flow of information and data from the school and local levels to the central ministry and vice versa. Restricted access to and flow of information severely limits the Ministry’s ability to plan responsive and relevant policies, monitor and evaluate program implementation, and ensure quality throughout the system. (p. 163)
- Well-functioning monitoring processes are critical to achieving the goals of the education system. Through monitoring of processes and outcomes, the MOE will be able to identify areas of need and improve on its ability to achieve results. Good monitoring data provides feedback on how well the policies and processes of the Ministry are performing, which in turn allows Government officials to make decisions that will lead to quality improvements. (p. 174)

The Liberia Teacher Training Program (LTTP, 2006-2010 and 2010-2015) has sought to support MoE development of policies, systems, and capacity in these areas, in part focusing on helping the MoE (at the center and in its decentralized units: county education offices and district education offices) to collect and utilize education data for decision-making (Ginsburg & Arrington, 2015).

This report is part of a series that looks at progress across the Liberian education system in the areas LTTP sought to support (see also Ansari et al., 2015a, 2015b, and 2015c). The series considers changes between the 2013/14 academic year (prior to the Ebola emergency) and the close of the shortened 2015 academic year (as the Ebola emergency waned).<sup>1</sup>

### **Objectives of the Study**

This study examines various issues related to data utilization by staff in the central MoE, the county education offices (CEOs), and district education offices (DEOs). In particular, the study examines a) frequency of data utilization for decision making, b) factors limiting the use of data for decision making, c) helpfulness of various types of data for informing decisions, and d) capacity of staff to use data to inform their decisions.

This study seeks to answer the following questions:

1. In 2013-2014 and 2015, to what extent did MoE, CEO, and DEO staff utilize data to inform their decision making?
2. In 2013-2014 and 2015, what which factors had more or less impact on limiting MoE, CEO, and DEO staff in utilizing data to inform their decisions?
3. In 2013-2014 and 2015, which data sources did MoE, CEO, and DEO staff find more and less helpful in informing their decisions?

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<sup>1</sup> Since the end of its years of civil war, the Liberian education system has faced numerous challenges in reform efforts, including resource limitations, and frequent personnel turnover at all levels (see Ginsburg, 2015; Talbot & Taylor, 2015). Moreover, in 2014 and 2015, the system grappled with the complex effects of the Ebola emergency, which impacted education through prolonged school closures, psychosocial trauma to students and education personnel, and (understandably) the prioritization of emergency response over long term planning and reform efforts.

4. In 2013-2014 and 2015, which capacities for using data to inform decisions making did MoE, CEO, and DEO staff rate as higher or lower?
5. For questions 1-4, what differences, if any, can be observed among staff at the different levels of the education system (central MoE, CEO, and DEO)?
6. What statistically significant differences in average responses (comparing 2013-2014 and 2015) on the various items included under questions 1-4?

## Methodology

Staff at the central MoE, CEOs, and DEOs were asked to respond to a set of items describing their a) utilization of data to inform their decisions, b) the factors that limited their use of data to inform their decisions, c) the helpfulness of various data sources in informing their decisions, and d) their perceived capacity to use data to inform various types of decisions. Participants were asked to respond twice to each item on the self-administered questionnaire, (retrospectively) for the 2013-2014 school year, prior to the Ebola emergency, as well as concurrently at the time of data collection (in summer 2015, at or after the end of the restructured school year, as the Ebola emergency waned).

## Sampling

For the data utilization survey, staff were sampled at the central MoE, county education offices, and district education offices to allow for a range of perspectives on the various issues. Below we describe the samples for each group of respondents.

### *Central Ministry of Education*

The central MoE sample targeted respondents in the following units: Basic Education, Monitoring and Evaluation, Policy Appraisal and Evaluation, Planning, and Teacher Education. Any professional staff from these units was eligible for the study. A random sample of 6 individuals was selected from a complete list of professional staff in each unit, and these individuals were invited to participate. A total of 30 individuals were targeted across the 5 units. Due to challenges contacting and scheduling times to meet with participants and data entry issues, the final number of central MoE respondents ranges generally from 13 to 17 depending on the item on the questionnaire.<sup>2</sup>

### *County Education Offices*

This study focused on the five counties that make up the “development corridor” (Bong, Lofa, Margibi, Montserrado, and Nimba), where LTTP focused its support. Professional staff in each of the county education offices in these counties were invited to participate. Because each office has only six professional staff—a county education officer, a finance officer, a human resource officer, a monitoring and evaluation officer, a planning officer, and a procurement officer, all staff were eligible for the study. While we aimed to have a total of 30 participants from county education offices, due to challenges contacting and scheduling meetings with participants and data entry issues, the final number of respondents ranges generally from 18 to 21 for different questionnaire items, and represents four of the five targeted counties (Bong, Lofa, Montserrado, and Nimba).<sup>3</sup>

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<sup>2</sup> There are three items on the questionnaire that received less than 12 responses: a) frequency of use of data on the existence of a parent teacher association (n=5); b) helpfulness of observation of teaching and learning as a data source (n=12); and c) helpfulness of discussion/interaction with students as a data source (n=10)

<sup>3</sup> There are three items on the questionnaire that received less than 18 responses: a) helpfulness of discussion/interaction with students as a data source (n=11); b) capacity to use data to inform decisions on where



### *District Education Offices*

In each of the five focal counties, there are between three and nine district education offices. All three districts in Margibi were targeted for the study, and three districts were randomly sampled from the other counties for a total of 15 districts. Each district office has three professional staff (a district education officer, a special assistant, and a supervising principal). Given the small number of professional staff in each district education office and the fact that they work as a team, all three staff members at each office were eligible to participate for a total of 45 potential participants. Ultimately, due to challenges arranging meetings with participants and data entry issues, the final number of DEO respondents ranges generally from 24 to 27 depending on the questionnaire item.<sup>4</sup> The final dataset includes respondents from four of five counties (Bong, Margibi, Montserrado, and Nimba) and 9 of the 15 targeted districts.

### **Data Collection**

The data collectors included the six members of the LTP Monitoring, Evaluation, and Research Team and five recipients of LTP scholarships for masters' degree program. Three members from Planning and Research Department of MoE served as a support team to contact and schedule meetings with the sampled institutional units. The data collectors are all Liberians who have previous experience conducting research and evaluation fieldwork. Nevertheless, the Site Principal Investigator organized a 2-day data collectors' training workshop prior to the start of the study.

Data were collected using a self-administered questionnaire, which included four sections, in addition to respondent information (MoE unit, county name, or district name): a) frequency of use of data to inform decision making, b) factors that limited the use of data to inform decisions, c) helpfulness of various data sources to inform decisions, and d) capacity to use data to inform various types of decisions. Prior to conducting the study, the trained teams piloted the study instruments in not-sampled settings in July 2014. With inputs from key staff of the MoE and LTP through consultation meetings, the study tools were finalized. This led to a few minor revisions and adjustments in the instruments. Copies of the final instrument used is attached in Annex A.

The training workshop in June 2015 covered: a) a general orientation to the purposes of the project activity; b) a review of ethical issues in carrying it out, with particular attention to soliciting informed consent and maintaining confidentiality of information gathered; c) a detailed review of the various self-administered questionnaires and focus group discussion protocol; d) a demonstration of how to contact potential participants, distribute the questionnaire, and conduct focus groups;<sup>5</sup> and e) a simulation exercise in which participants practice conducting (facilitating and recording) focus group discussions. During the simulation exercise participants in the workshop received individual supervisory guidance from the Site Principal Investigator and LTP – MER Technical Officers. They were also engaged in a group debriefing facilitated by the Site Principal Investigator.

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new schools should be located (n=16); and c) capacity to use data to inform decisions on needs for teacher retention (n=17).

<sup>4</sup> There are two items on the questionnaire that received less than 24 responses: a) helpfulness of discussion/interactions with students as a data source (n=14) and b) helpfulness of observation during school visits as a data source (n=22).

<sup>5</sup> In addition to collecting data from participating staff using a self-administered questionnaire, data were subsequently collected during focus group discussions involving the same respondents. In this report only the findings from responses to the self-administered questionnaire are presented.

## Data Analysis

Given the questions to be answered in this study, we employed Microsoft Excel to analyze the data, yielding descriptive statistics, mainly frequencies, means, and standard deviations. In addition, we used one-tailed t-tests to assess whether or not item mean scores for 2015 were statistically significantly different from the (retrospective) mean scores for 2013-2014. We used a p-value of less than .05 as our criterion for significance, though we also note where the p-value was less than .01.

## Limitations of the Study

We acknowledge bias in the views of participants dependent on their relationship with the institutions under study. Another potential source of bias is introduced because we collected data during the summer of 2015, but also asked respondents to provide retrospective reports on the situation during the 2013-2014 school year. However, as Mueller and Gaus (2015, p. 7) conclude, “overall, the results suggest that the [Counterfactual as Self-Estimated by Program Participants] approach is capable of delivering comparatively reliable estimates of short- and midterm effects on behavioral intentions and attitudes.”

## Findings

We present findings (retrospectively) for the 2013-2014 school year and (directly) for the 2015 school year. Results are organized by the following four areas on which the study focused: a) frequency of use of data to inform decision making, b) factors that limited the use of data to inform decisions, c) helpfulness of various data sources to inform decisions, and d) capacity to use data to inform various types of decisions. For each area we discuss the findings based on the responses of staff in the central MoE, CEOs, and DEOs. In the conclusion section we compare the findings across system levels as well as discuss the pattern of significant changes in mean scores between 2013-2014 and 2015.

### Frequency of Data Utilization to Inform Decisions

Table 1 presents the findings for responses by central MoE, CEO, and DEO staff to the question: “How frequently does the ... staff use the following types of data in making decisions in their work?”

One observes in Table 1 that the *MoE staff* on average reported that they used the different types of data between “once per fiscal year” and “once per quarter” (mean scores equal 2.0 to 2.8). Furthermore, the following types of data being used somewhat more frequently: number of school-aged children, pupil-teacher ratio, number of teachers, number of qualified teachers, number of female teachers, type/quality of classrooms, and source of water. With regard to the type of data that was least often used to inform decision making in both 2013-14 and 2015, they indicated “the existence of a PTA.” Of the various types of data, only one registered a significant difference between the 2013-14 and 2015 schools years for MoE staff. This was “type of water,” which increased from 2.6 to 2.8, becoming the most frequently used type of data in 2015.

Table 1 also shows that the *CEO staff* on average reported that they used the different types of data between “once per fiscal year” and “once per quarter” (mean scores equal 1.9 to 2.8). Furthermore, the following types of data being used somewhat more frequently: number of school-aged children, student enrollment, number of teachers, number of qualified teachers, and existence of a PTA. In terms of the type of data that was least often used to inform decision making in both 2013-14 and 2015, they noted

student dropout rate and type/quality of latrines. For CEO staff, none of the various types of data registered a significant difference between the 2013-14 and 2015 schools years.

In Table 1 we also see that the *DEO staff* on average reported that they used the different types of data between somewhat below “once per quarter” to more than “once per quarter” but less than “2-3 times per quarter” (mean scores equal 2.7 to 3.4). Moreover, they reported that the following types of data were used somewhat more frequently: student enrollment, number of teachers, number of qualified teachers, and existence of a PTA. And with respect to the type of data that was least often used to inform decision making in both 2013-14 and 2015, they mentioned student repetition rate. For DEO staff, none of the various types of data registered a significant difference between the 2013-14 and 2015 schools years.

**Table 1: Average Frequency of Staff Use of Types of Data for Decision Making**

<i>Types of data used in making decisions in work:</i>	Central MoE		CEOs		DEOs	
	2013-14	2015	2013-14	2015	2013-14	2015
a. Number of school-aged children	2.5	2.5	2.5	2.6	3.0	3.0
b. Student enrollment	2.4	2.3	2.6	2.7	3.2	3.3
c. Student dropout rate	2.3	2.4	1.9	2.0	2.9	2.9
d. Student repetition rate	2.4	2.1	2.1	2.0	2.7	2.7
e. Percent of overage students	2.4	2.3	2.2	2.4	2.8	2.8
f. Pupil-teacher ratio	2.3	2.3	2.2	2.4	2.8	2.9
g. Pupil-classroom ratio	2.5	2.5	2.1	2.1	2.9	2.9
h. Number of teachers	2.6	2.9	2.7	2.7	3.3	3.4
i. Number of qualified teachers (i.e., with C-Certificates)	2.6	2.7	2.7	2.7	3.1	3.2
j. Number of female teachers	2.4	2.8	2.2	2.3	3.0	3.0
k. Number of classrooms	2.3	2.5	2.2	2.3	2.8	2.8
l. The type/quality of classrooms	2.6	2.7	2.2	2.3	3.0	2.9
m. Number of latrines	2.1	2.1	2.1	1.9	2.9	2.9
n. The type/quality of latrines	2.4	2.6	2.0	2.0	2.8	2.8
o. Source of water	2.6	2.8*	2.5	2.6	2.9	3.0
p. Existence of a Parent Teacher Association	2.0	2.0	2.8	2.7	3.4	3.4
<b>Overall average</b>	<b>2.4</b>	<b>2.5</b>	<b>2.3</b>	<b>2.3</b>	<b>3.0</b>	<b>3.0</b>
1=never, 2=once per fiscal year, 3=once a quarter, 4=2-3 times per quarter, 5=once a month						
*2015 figure is significantly different from 2013-14 figure (p<.05)						
**2015 figure is significantly different from 2013-14 figure (p<.01)						

### Factors Limiting Use of Data to Inform Decisions

Table 2 presents the findings for responses by central MoE, CEO, and DEO staff to the statement: “Please indicate to what extent do the following factors limit the ... staff using data for decision making.”

One observes in Table 2 that the *MoE staff* on average reported that the various factors limiting their use of data for decision making between did so between less than a “limited extent” to almost a “moderate extent” (mean scores equal 1.8 to 2.8). Additionally, the factors that they reported as having a greater impact on limiting their using data (at least in 2015) were: access to data, quality or accuracy of data, and relevance of data to decisions. With regard to the factors that had the least impact on their using data, they noted: the quality of computer equipment, the capacity to do advanced data analyses, the capacity to interpret basic statistics, and the capacity to interpret results from advanced data analyses. Furthermore, none of the factors registered a significant difference between the 2013-14 and 2015 schools years with respect to their extent of limiting using data for decision making by MoE staff.

Table 2 also shows that the *CEO staff* on average reported that the various factors limiting their use of data for decision making did so between somewhat less than a “limited extent” to just above a “limited extent” (mean scores equal 1.6 to 2.1). Moreover, the factors that they reported as having a greater impact on limiting their using data (at least in 2015) were: access to data, quality or accuracy of data, relevance of data to decisions, data not being current, and capacity to organize/manage data. With regard to the factors that had the least impact on their using data, they mentioned the quality of computer equipment. Furthermore, none of the factors registered a significant difference between the 2013-14 and 2015 schools years with respect to their extent of limiting using data for decision making by CEO staff.

In Table 2 we also see that the *DEO staff* on average reported that the various factors limiting their use of data for decision making did so between just over a “limited extent” to a “moderate extent” (mean scores equal 2.2 to 3.0). Moreover, the factors that they reported as having a greater impact on limiting their using data (at least in 2015) were: access to data, quality or accuracy of data, relevance of data to decisions, data not available in time for decisions, and availability of computer equipment. With regard to the factors that had the least impact on their using data, they mentioned the data not being current, the capacity to do advanced data analysis, and the capacity to interpret basic statistics. Furthermore, only one of the factors registered a significant difference between the 2013-14 and 2015 schools years with respect to their extent of limiting using data for decision making by DEO staff. In this case, the limiting impact of their capacity to determine data sources was slightly diminished.

**Table 2: Average Extent to which *Factors Limit Using Data* for Decision Making**

<i>Factors limiting use of data for decision making:</i>	MoE		CEOs		DEOs	
	2013-14	2015	2013-14	2015	2013-14	2015
a. Access to data	2.2	2.6	2.1	2.1	2.6	2.8
b. Quality or accuracy of data	2.5	2.6	2.1	2.2	2.7	2.8
c. Relevance of the data to decisions	2.3	2.8	2.1	2.1	2.8	3.0
d. Data not available in time for decisions	2.0	2.1	2.0	2.0	2.9	2.7
e. Data not being current	2.1	2.1	2.1	2.1	2.2	2.2
f. Availability of computer equipment	2.2	1.9	1.7	1.6	2.8	2.6
g. Quality of computer equipment	1.8	1.9	1.8	1.7	2.4	2.4
h. Access to the Internet	2.3	2.0	1.5	1.6	2.4	2.4
i. Capacity to determine data needs	2.4	2.4	1.9	1.9	2.4	2.3
j. Capacity to determine data sources	2.1	2.2	1.9	1.9	2.5	2.3*
k. Capacity to collect data	2.3	2.4	2.0	2.2	2.7	2.6
l. Capacity to organize/manage data	2.3	2.3	2.1	2.1	2.5	2.3
m. Capacity to calculate basic statistics	2.3	2.1	2.1	2.0	2.4	2.3
n. Capacity to do advanced data analyses	1.8	1.8	1.8	1.8	2.2	2.2
o. Capacity to interpret basic statistics	1.9	1.9	1.9	1.9	2.2	2.2
p. Capacity to interpret results from advanced data analyses	1.9	1.8	1.9	1.9	2.3	2.3
<b>Overall average</b>	<b>2.1</b>	<b>2.2</b>	<b>1.9</b>	<b>1.9</b>	<b>2.5</b>	<b>2.5*</b>
1=not at all, 2=limited extent, 3=moderate extent, 4=great extent, 5=very great extent						
*2015 figure is significantly different from 2013-14 figure (p<.05)						
**2015 figure is significantly different from 2013-14 figure (p<.01)						

### Helpfulness of Various Data Sources to Inform Decisions

Table 3 presents the findings for responses by central MoE, CEO, and DEO staff to the statement: “Please indicate, how *helpful* did you find the following sources of data *for informing decisions of the ...* staff.”

One observes in Table 3 that the *MoE staff* on average reported that the helpfulness of the various sources of data to inform their decision making ranged between just below “somewhat helpful” to just

over “helpful” (mean scores equal 1.8 to 3.1). Additionally, the data sources that they reported most helpful in informing their decisions were: the annual school census forms, the EMIS database, discussions with education partners, and personal experience. With regard to the data sources that were least helpful in informing their decisions, they noted: discussions with principals and discussions with parents/community members. Furthermore, only one of the data sources registered a significant difference (comparing the 2013-14 and 2015 school years) in degree of helpfulness in informing their decisions. In this case, “discussions with teachers” increased from just below to just above “somewhat helpful.”

Table 3 also shows that the *CEO staff* on average reported that the helpfulness of the various sources of data to inform their decision making ranged between just above “somewhat helpful” to “helpful” (mean scores equal 2.1 to 3.0). Additionally, the data sources that they reported most helpful in informing their decisions were: school records, discussion/interaction with students, observations during school visits, discussions with central MoE staff, discussions with education partners, previous professional experience, and personal experience. With regard to the data sources that were least helpful in informing their decisions, they noted payroll reports. Furthermore, eight of the data sources registered a significant difference (comparing the 2013-14 and 2015 school years) in degree of helpfulness in informing their decisions. In all cases, the helpfulness of the following data sources moved closer to “helpful” (3.0): annual school census reforms (2.6 to 2.8), payroll reports (2.1 to 2.4), personnel files (2.5 to 2.7), school records (2.6 to 2.9), assessment reports on students (2.6 to 2.8), discussions with principals (2.3 to 2.8), discussions with teachers (2.6 to 2.8), observations during school visits (2.7 to 2.9), and discussions with central MoE staff (2.8 to 3.0).

In Table 3 we also see that the *DEO staff* on average reported that the helpfulness of the various sources of data to inform their decision making ranged between just below “helpful” to half way between “helpful” and “very helpful” (mean scores equal 2.8 to 3.5). Additionally, the data sources that they reported most helpful in informing their decisions were: personnel files, discussions with principals, discussions with education partners, and personal experience. With regard to the data sources that were least helpful in informing their decisions, they noted: policy documents and guidelines, discussions with school board members, and formal research or evaluation studies. Furthermore, three of the data sources registered a significant difference (comparing the 2013-14 and 2015 school years) in degree of helpfulness in informing their decisions. In all of these cases, the helpfulness of the following data sources increased over the two years: personnel files (moving towards very “helpful,” from 3.1 to 3.4), policy documents and guidelines (moving toward “helpful,” from 2.8 to 2.9), and discussions with central MoE staff (moving towards “very helpful,” from 3.0 to 3.3).

**Table 3: Average Helpfulness of Data for Informing Decisions**

<i>Sources of data for informing decisions:</i>	MoE		CEOs		DEOs	
	2013-14	2015	2013-14	2015	2013-14	2015
a. Annual School Census forms	2.6	2.9	2.6	2.8*	3.1	3.1
b. EMIS database	2.9	3.1	2.5	2.6	3.2	3.3
c. Payroll reports	2.1	2.1	2.1	2.4*	3.0	3.1
d. Personnel files	2.2	2.3	2.5	2.7*	3.1	3.4*
e. County and District Profiles	2.0	2.1	2.5	2.5	3.0	2.9
f. Grant forms submitted by principals	2.1	1.9	--	--	--	--
g. Forms submitted by principals when requesting replacement/additional teachers	2.0	1.9	2.5	2.7*	3.0	3.0
h. School records (attendance, inventory, etc.)	2.1	2.0	2.6	2.9*	3.2	3.2
i. Policy documents and guidelines	2.1	2.4	2.6	2.7	2.8	2.9*
j. Assessment reports on students	2.1	2.0	2.6	2.8*	3.3	3.3
k. Observation of teaching & learning	2.3	2.0	--	--	--	--
l. Discussions with principals	1.9	1.9	2.3	2.8**	3.4	3.4
m. Discussions with parents/community members	1.8	1.9	2.5	2.7	3.0	3.2
n. Discussions with teachers	1.9	2.2*	2.6	2.8*	3.3	3.3
o. Discussion/Interaction with students	2.0	2.2	2.9	3.0	3.0	3.1
p. Observations during school visit	2.3	2.5	2.7	2.9*	3.0	3.1
q. Discussions with school board members	2.1	2.2	2.3	2.5	2.8	2.9
r. Discussions with office staff/colleagues	2.5	2.5	--	--	--	--
s. Discussions with central MoE staff	2.4	2.5	2.8	3.0*	3.0	3.3*
t. Discussions with education partners	2.8	2.9	2.8	3.0	3.4	3.4
u. Formal research or evaluation studies	2.1	2.1	2.4	2.4	2.8	2.9
v. Previous professional experiences	2.6	2.7	2.8	2.9	3.1	3.2
w. Personal experiences	2.8	2.7	2.9	3.0	3.5	3.4
<b>Overall average</b>	<b>2.2</b>	<b>2.3*</b>	<b>2.5</b>	<b>2.7**</b>	<b>3.1</b>	<b>3.2**</b>
1=not at all helpful, 2=somewhat helpful, 3=helpful, 4=very helpful *2015 figure is significantly different from 2013-14 figure ( $p < .05$ ) **2015 figure is significantly different from 2013-14 figure ( $p < .01$ )						

**Capacity to Utilize Data to Inform Various Decisions**

Table 4 presents the findings for responses by central MoE, CEO, and DEO staff to the question: “How would you rate the capacity of ... staff in using data to inform the following types of decisions?”

One observes in Table 4 that the *MoE staff* on average rated their capacity to use data to inform the various types of decisions as ranging from “low” to “moderate” (mean scores equal 2.0 to 3.0). Additionally, the types of decisions for which they reported the most capacity in using data were: deciding needs for teacher recruitment and deciding needs for teacher training. With regard to the types of decisions for which they perceived the least capacity in using data, they noted: deciding where to locate new schools, assigning teachers to schools, deciding needs for teacher retirement, and deciding the amount for school grants. Furthermore, only one of the types of decisions registered a significant difference (comparing the 2013-14 and 2015 school years) in the MoE staff’s capacity to use data to inform their decisions. In this case, their perceived level of capacity to use data in “deciding the amount for school grants” increased from “low” toward “moderate” (2.0 to 2.3).

Table 4 also shows that the *CEO staff* on average on average rated their capacity to use data to inform the various types of decisions as ranging from somewhat less than “low” to somewhat less than “moderate” (mean scores equal 1.7 to 2.7). Additionally, the type of decisions for which they reported the most capacity in using data was: deciding which schools need teaching and learning materials. With regard to the types of decisions for which they perceived the least capacity in using data, they noted: deciding where to locate new schools, deciding needs for teacher retirement, and deciding the amount for school grants. Furthermore, six types of decisions registered significant differences (comparing the 2013-14 and 2015 school years) in the CEO staff’s capacity to use data to inform their decisions. In all of these cases, their perceived level of capacity to use data in decision making increased over the two years: deciding needs for teacher recruitment (moving toward “moderate,” from 2.1 to 2.4), deciding needs for teacher training (moving toward “moderate,” from 2.2 to 2.5), deciding need for teacher retirement (moving toward “low,” from 1.8 to 1.9), deciding which schools need additional classrooms (moving toward “moderate,” from 2.3 to 2.5), deciding which schools need additional latrines (moving toward “moderate,” from 2.6 to 2.7), and deciding which schools need better quality latrines (moving toward “moderate,” from 2.3 to 2.5).

In Table 4 we also see that the *DEO staff* on average rated their capacity to use data to inform the various types of decisions as ranging from somewhat below “moderate” to just above “high” (mean scores equal 2.7 to 4.1). Additionally, the types of decisions for which they reported the most capacity in using data were: deciding which schools need additional teaching and learning materials as well as deciding needs for instructional supervision. With regard to the types of decisions for which they perceived the least capacity in using data, they noted: deciding needs for teacher retirement and deciding the amount for school grants. Furthermore, only one type of decision registered a significant difference (comparing the 2013-14 and 2015 school years) in the DEO staff’s capacity to use data to inform their decisions. In this case, their perceived level of capacity to use data in “deciding which schools need better quality classrooms” increased slightly from above “moderate” toward nearer to “high” (3.7 to 3.8).



**Table 4: Average Capacity of staff in Using Data to Inform Decisions**

<i>Types of decisions that could be informed by data:</i>	MOE		CEOs		DEOs	
	2013-14	2015	2013-14	2015	2013-14	2015
a. Deciding where new schools should be located	2.1	2.3	1.7	1.7	2.9	3.0
b. Assigning teachers to schools	2.1	2.3	2.6	2.7	3.5	3.5
c. Deciding which schools need teaching and learning materials	2.4	2.5	2.8	3.0	4.0	4.0
d. Deciding needs for teacher recruitment	2.6	2.8	2.1	2.4*	3.6	3.6
e. Deciding needs for teacher training	2.9	3.0	2.2	2.5*	3.7	3.8
f. Deciding needs for teacher retention	2.3	2.5	2.4	2.5	3.5	3.6
g. Deciding needs for teacher retirement	2.0	2.1	1.8	1.9*	2.8	2.7
h. Deciding the amount for school grants	2.0	2.3*	1.9	2.0	2.8	2.8
i. Deciding needs for instructional supervision	2.3	2.4	2.6	2.7	4.1	4.1
j. Deciding which schools need additional classrooms	2.4	2.5	2.3	2.5*	3.8	3.8
k. Deciding which schools need better quality classrooms	2.5	2.5	2.3	2.3	3.7	3.8*
l. Deciding which schools need additional latrines	2.5	2.4	2.6	2.7*	3.5	3.6
m. Deciding which schools need better quality latrines	2.6	2.6	2.3	2.5*	3.5	3.7
n. Deciding which schools need a (better) water source	2.5	2.4	--	--	--	--
<b>Overall average</b>	<b>2.4</b>	<b>2.5**</b>	<b>2.3</b>	<b>2.4**</b>	<b>3.5</b>	<b>3.5</b>
1=very low, 2=low, 3=moderate, 4=high, 5=very high *2015 figure is significantly different from 2013-14 figure (p<.05) **2015 figure is significantly different from 2013-14 figure (p<.01)						

### Conclusion

This study examines the following issues in relation to staff in the central MoE, the county education offices (CEOs), and district education offices (DEOs) in Liberia: a) frequency of data utilization for decision making, b) factors limiting the use of data for decision making, c) helpfulness of various types of data for informing decisions, and d) capacity of staff to use data to inform their decisions. Data were collected during the summer of 2015, asking respondents to report on the then current situation as well

as to report, retrospectively, on the situation that obtained during the 2013-2014 school year. Thus, the findings on these four issues can be compared across staff categories and across years.

With respect to the frequency of data utilization for decision making, we found that overall DEO staff (mean score equals 3.0, or “once a quarter”) reported that they more frequently data for decision making than either central MoE or CEO staff (respectively, mean score equals 2.4-2.5 or 2.3, between “once per fiscal year” and “once a quarter”). Comparing the types of data they more frequently used, all three levels of education sector staff indicated that they frequently used data about the overall number of teachers in their decisions, with the number qualified teachers accorded similar importance. One interesting contrast regards data on the existence of a PTA. While CEO and DEO staff identified this as one of their most frequent types of data to inform their decisions, for the MoE staff this was one of the least frequent types of data they used. Another contrast involves data on the water source. MoE staff (but not CEO or DEO staff) rated the source of water as one of the types of data they most often used to inform their decisions. Moreover, given the importance of water for hand-washing and other hygiene, especially in the post-Ebola era, it is noteworthy that this is the only type of data which any of the respondent groups (in this case the MoE staff) reported a statistically significant increase between 2013-2014 and 2015.

When focusing on factors that limited data utilization for decisions, we observed that overall DEO staff (mean score equal 2.5, half way between a “limited extent” and a “moderate extent”) reported that the various factors limited their use of data more so than either central MoE or CEO staff (respectively, mean score equals 2.1-2.2 or 1.9, approximately a “limited extent”). Comparing the factors that limited data utilization, we found that central MoE and CEO staff both rated the “quality or accuracy of data” as the one that limited their use of data the most. While DEO staff rated this factor relatively highly, for them the factor that limited data utilization the most was the “relevance of the data to decisions.” The factors that had the least limiting impact on data utilization varied across respondent groups. For the central MoE staff it was the “capacity to do advanced data analysis;” for the CEO staff it was “access to the internet;” and DEO staff rated three factors equally low: “data not being current,” “capacity to do advanced data analysis,” and “capacity to interpret basic statistics.” Furthermore, there was only one factor for one respondent group that was statistically significantly different when comparing the average responses between the 2013-2014 and 2015 school years. In this instance, DEO staff reported that the factor, “capacity to determine data sources,” had reduced the extent to which it impacted their use of data for decision making.

In terms of the helpfulness of various types of data to inform decision making, we noted that on average DEO staff (mean score equals 3.1-3.2, slightly above “helpful”) rated the various sources of data for decision making as somewhat more helpful than CEO staff (mean score equals 2.5-2.7, about halfway between “somewhat helpful” and “helpful”), who gave somewhat higher helpfulness ratings than DEO staff (mean score equals 2.2-2.3, somewhat above “somewhat helpful”). Comparing the different types of data in terms of their helpfulness to inform decisions, we found that central MoE staff reported the “EMIS database” was most helpful, CEO staff rated “discussion/interaction with students” and “personal experiences” as most helpful, and DEO staff identified three data sources as most helpful: “discussions with principals,” “discussion with education partners,” and “personal experiences.” It is worth

mentioning that “personal experiences” was also rated as one of the most helpful data sources by central MoE staff, though other data sources were rated slightly higher. Not surprisingly, central MoE staff rated “discussions with principals” and “discussions with parents/community members” as the least helpful data source, given the likely limited opportunity for such staff to interact with these groups. Meanwhile, CEO staff identified “payroll reports” as least helpful in informing their decisions, while DEO staff reported the following data sources as least helpful: “policy documents and guidelines,” “discussions with board members,” and “formal research and evaluation studies.” Additionally, for MoE staff there was only one data source that was reported as becoming statistically significantly more helpful in informing their decisions (“discussion with teachers), while for DEO staff there were two data sources (“personnel files” and “policy documents and guidelines”). In contrast, CEO staff indicated that 10 of the 19 data sources became statistically significantly more important to inform their decision making: annual school census forms, payroll reports, personnel files, forms submitted by principals when requesting replacement/additional teachers, school records (attendance, inventory, etc.), observation of teaching and learning, discussions with principals, discussions with teachers, observations during school visits, and discussions with central MoE staff.

With regard to capacity to use data to inform decisions, we found that on average DEO staff (mean score equals 3.5, half way between “moderate” and “high”) reported their capacity as higher than either central MoE or CEO staff (respectively, mean score equals 2.4-2.5 or 2.3-2.4, approximately half way between “low” and “moderate”). Comparing the different types of decisions which could be informed by data, central MoE staff rated their capacity as highest on using data for “deciding needs for teacher training.” In contrast, both CEO and DEO staff gave top ratings to their capacity to using data for “deciding which schools need teaching and learning materials, while DEO staff also rated their capacity to use data for “deciding needs for instructional supervision.” And both central MoE and DEO staff rated lowest their capacity to use data for “deciding needs for teacher retirement.” For CEO staff, they rated lowest their capacity to use data for “deciding where new schools should be located,” while DEOs also rated quite low their capacity for using data for “deciding the amount for school grants.” Furthermore, only one statistically significant increase in perceived capacity to use data to inform a type of decision was found for central MoE staff (“deciding the amount for school grants”) and only one for DEO staff (“deciding which schools need better quality classrooms”). In contrast, CEO staff reported that their capacity to use data had statistically significantly increased for five types of decisions: deciding needs for teacher recruitment, deciding needs for teacher retirement, deciding which schools need additional classrooms, deciding which schools need additional latrines, and deciding which schools need better quality latrines.

That between the 2013-2014 school year (before the Ebola emergency) and the 2015 school year (as the Ebola emergency wanes) there were no significant changes in central MoE, CEO, and DEO staff’s utilization of data for decision making can be seen as an accomplishment. It indicates that either the systemic use of data for decision making was not greatly affected by the Ebola emergency or that the various levels of the system were resilient, that is, able to recover to their previous states before the emergency. Similarly, one can recognize as an accomplishment that central MoE and DEO staff did not decline in their capacity to use data to inform various types of decisions. Perhaps even a great cause for

celebration is the fact that CEO staff seem to have increased their capacity to use data to inform key decisions.

Although we are not in a position to identify the specific impact of the technical assistance and capacity building undertaken by the Liberia Teacher Training Program, it seems likely that the project's interventions have contributed to the education system's resilience and even growth during this difficult period in the history of Liberia.

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Appendices

Appendix A: Data Utilization Survey Tool

**Data Utilization Survey**  
**Central MoE, CEO, or DEO Staff**

**INSTRUCTIONS:**

Please respond to the various items included in the four questions presented below. You are being asked to respond to each item for **two different time periods**, giving your best estimate for each period.

- A. In the center column (immediately to the right of the column labeled “activity”), provide your response to the question with respect to the current **(2015) school year**.
- B. In the right-hand column, provide your response for each category of activity with respect to the previous **(2013-2014) school year**, before the Ebola outbreak.

Do not write your name on the questionnaire. However, please confirm the information about the county in which you work, which should have been inserted by the data collector.

When you have completed the questionnaire, please give it to the data collector (sealed in the envelope provided).

Thank you for taking the time to carefully answer these questions.

Name of MoE Unit: \_\_\_\_\_

Name of County: \_\_\_\_\_

Name of District: \_\_\_\_\_

Date of Survey: \_\_\_\_\_

1. How *FREQUENTLY* does the County Education Office staff use the following *TYPES of data* in *making decisions* in their work?  
 Please circle your response for each activity (for both time periods: 2015 and 2013-2014), using the rating scale below:

<b>Types of Data:</b>	<b>2015</b>					<b>2013-2014</b>				
a. Number of school-aged children	1	2	3	4	5	1	2	3	4	5
b. Student enrollment	1	2	3	4	5	1	2	3	4	5
c. Student dropout rate	1	2	3	4	5	1	2	3	4	5
d. Student repetition rate	1	2	3	4	5	1	2	3	4	5
e. Percent of overage students	1	2	3	4	5	1	2	3	4	5
f. Pupil-teacher ratio	1	2	3	4	5	1	2	3	4	5
g. Pupil-classroom ratio	1	2	3	4	5	1	2	3	4	5
h. Number of teachers	1	2	3	4	5	1	2	3	4	5
i. Number of qualified teachers (i.e., with C-Certificates)	1	2	3	4	5	1	2	3	4	5
j. Number of female teachers	1	2	3	4	5	1	2	3	4	5
k. Number of classrooms	1	2	3	4	5	1	2	3	4	5
l. The type/quality of classrooms	1	2	3	4	5	1	2	3	4	5
m. Number of latrines	1	2	3	4	5	1	2	3	4	5
n. The type/quality of latrines	1	2	3	4	5	1	2	3	4	5
o. Source of water	1	2	3	4	5	1	2	3	4	5
p. Existence of a Parent Teacher Association	1	2	3	4	5	1	2	3	4	5

<b>Rating Scale</b>
1. Never
2. Once per fiscal year
3. Once a quarter
4. 2-3 times per quarter
5. Once per month

2. Please indicate, to what extent do the following *factors LIMIT* the Education Office staff *USING data* for decision making? Please circle your response for each activity (for both time periods: 2015 and 2013-2014), using the rating scale below:

<b>Factors limiting the Use of Data</b>	<b>2015</b>	<b>2013-2014</b>
a. Access to data	1 2 3 4 5	1 2 3 4 5
b. Quality or accuracy of data	1 2 3 4 5	1 2 3 4 5
c. Relevance of the data to decisions	1 2 3 4 5	1 2 3 4 5
d. Data not available in time for decision	1 2 3 4 5	1 2 3 4 5
e. Data not being current	1 2 3 4 5	1 2 3 4 5
f. Availability of computer equipment	1 2 3 4 5	1 2 3 4 5
g. Quality of computer equipment	1 2 3 4 5	1 2 3 4 5
h. Access to the Internet	1 2 3 4 5	1 2 3 4 5
i. Capacity to determine data needs	1 2 3 4 5	1 2 3 4 5
j. Capacity to determine data sources	1 2 3 4 5	1 2 3 4 5
k. Capacity to collect data	1 2 3 4 5	1 2 3 4 5
l. Capacity to organize/manage data	1 2 3 4 5	1 2 3 4 5
m. Capacity to calculate basic statistics	1 2 3 4 5	1 2 3 4 5
n. Capacity to do advanced data analyses	1 2 3 4 5	1 2 3 4 5
o. Capacity to interpret basic statistics	1 2 3 4 5	1 2 3 4 5
p. Capacity to interpret results from advanced data analyses	1 2 3 4 5	1 2 3 4 5

<b>Rating Scale</b>
1. Not at all
2. Limited Extent
3. Moderate Extent
4. Great Extent
5. Very Great Extent



3. Please indicate, how *HELPFUL* did you find the following *SOURCES OF DATA for informing decisions of the County Education Office staff?*

Please circle your response for each activity (for both time periods: *2015* and *2013-2014*), using the rating scale below:

<b>Sources of Data or Information:</b>	<b>2015</b>				<b>2013-2014</b>			
a. Annual School Census forms	1	2	3	4	1	2	3	4
b. EMIS database	1	2	3	4	1	2	3	4
c. Payroll reports	1	2	3	4	1	2	3	4
d. Personnel files	1	2	3	4	1	2	3	4
e. County and District Profiles	1	2	3	4	1	2	3	4
f. Grant forms submitted by principals	1	2	3	4	1	2	3	4
g. Forms submitted by principals when requesting replacement/additional teachers	1	2	3	4	1	2	3	4
h. School record (attendance, inventory list, etc.)	1	2	3	4	1	2	3	4
i. Policy documents and guidelines	1	2	3	4	1	2	3	4
j. Assessment reports of the students	1	2	3	4	1	2	3	4
k. Observation of teaching & learning	1	2	3	4	1	2	3	4
l. Discussions with principals	1	2	3	4	1	2	3	4
m. Discussions with parents/community members	1	2	3	4	1	2	3	4
n. Discussions with teachers	1	2	3	4	1	2	3	4
o. Discussion/Interaction with students								
p. Observations during school visit	1	2	3	4	1	2	3	4
q. Discussions with school board members	1	2	3	4	1	2	3	4
r. Discussions with office staff/colleagues	1	2	3	4	1	2	3	4
s. Discussions with central MoE staff	1	2	3	4	1	2	3	4
t. Discussions with education partners	1	2	3	4	1	2	3	4
u. Formal research or evaluation studies	1	2	3	4	1	2	3	4
v. Previous professional experiences	1	2	3	4	1	2	3	4
w. Personal experiences	1	2	3	4	1	2	3	4

<b>Rating Scale</b>
1. Not at all helpful
2. Somewhat helpful
3. Helpful
4. Very helpful

4. How would you rate the CAPACITY of County Education Office staff in using data to inform the following Types of Decisions? Please circle your response for each activity (for both time periods: 2015 and 2013-2014), using the rating scale below:

Types of Decisions:	2015	2013-2014
a. Deciding where new schools should be located	1 2 3 4 5	1 2 3 4 5
b. Assigning teachers to schools	1 2 3 4 5	1 2 3 4 5
c. Deciding which schools need teaching and learning materials	1 2 3 4 5	1 2 3 4 5
d. Deciding needs for teacher recruitment	1 2 3 4 5	1 2 3 4 5
e. Deciding needs for teacher training	1 2 3 4 5	1 2 3 4 5
f. Deciding needs for teacher retention	1 2 3 4 5	1 2 3 4 5
g. Deciding needs for teacher retirement	1 2 3 4 5	1 2 3 4 5
h. Deciding the amount for school grants	1 2 3 4 5	1 2 3 4 5
i. Deciding needs for instructional supervision	1 2 3 4 5	1 2 3 4 5
j. Deciding which schools need additional classrooms	1 2 3 4 5	1 2 3 4 5
k. Deciding which schools need better quality classrooms	1 2 3 4 5	1 2 3 4 5
l. Deciding which schools need additional latrines	1 2 3 4 5	1 2 3 4 5
m. Deciding which schools need better quality latrines	1 2 3 4 5	1 2 3 4 5
n. Deciding which schools need a (better) water source	1 2 3 4 5	1 2 3 4 5

Rating Scale
1. Very low
2. Low
3. Moderate
4. High
5. Very high