

Education Cluster Assessment South Sudan

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Acronyms

EMIS	Education Management Information System
GESS	Girls' Education South Sudan
INGO	International Non-Governmental Organization
IDP	Internally Displaced People
MoGEI	Ministry of General Education and Instruction
NGO	Non-Governmental Organization
РТА	Parent Teacher Association
PoC	Protection of Civilians site
SMC	School Management Committee
SSAMS	South Sudan Schools Attendance Monitoring System
UNICEF	United Nations Children's Fund
UNMISS	United Nations Mission in South Sudan
WASH	Water, Sanitation and Hygiene
WFP	World Food Program

Glossary

Attacks on Schools	"Attacks on schools" is an umbrella term for indiscriminate and direct attacks against schools that are civilian objects, resulting in their compromised functioning, partial damage, or total destruction, as well as against related protected persons. In the case of schools it includes: physical attacks, looting, pillaging, and wanton destruction. In the case of related protected persons, such incidents include: killing, injuring, abduction, and use as human shields. ¹
Attendance	School attendance is defined as the number of students present at any school at the time of the assessment.
Education Cluster	The Education Cluster is an inter-agency coordination mechanism for agencies and organizations with expertise and a mandate for humanitarian response within the education sector in situations of internal displacement. Established in 2007 through the IASC, the Education Cluster is led by UNICEF and Save the Children at the global level. At a country level, other agencies may lead and the national Ministry of General Education and Instruction is actively involved.
Education Management Information System	The Education Management Information System (EMIS) is a governmental programme which facilitates information-driven policy discussions and decision-making by collecting, processing, analyzing, storing and disseminating education statistical information.
Enrolment	School enrolment is defined as the number of children registered at any school at the beginning of the school year, regardless of age.
Girls' Education South Sudan	Girls' Education South Sudan (GESS) is a programme which aims to increase enrolment, retention and levels achievement for girls through provision of direct cash transfers to girls, capitation grants to schools, and enhance community awareness of and support for girls' education in South Sudan.
Protection of Civilians site	A Protection of Civilians (PoC) site is an IDP site where UNMISS provides protection for civilians under threat of physical violence.
Payam	The third level administrative unit in South Sudan (under county).

¹ Office of the Special Representative of the Secretary-General for Children and Armed Conflict, *Protect Schools* + *Hospitals*, *Guidance Note on Security Council Resolution 1998*, United Nations, New York, 2014.

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Ministry of General Education and Instruction Adventist Development and Relief Agency (ADRA) Apt Succor (ASO) Association of Volunteers in International Service (AVSI) **BRAC** International Christian Mission for Development (CMD) Girls' Education South Sudan (GESS) **INTERSOS** Norwegian Refugee Council (NRC) Peace Corps Organization (PCO) Plan International Support for Peace and Education Development Program (SPEDP) Touch Africa Development Organization (TADO) UNICEF Unite and Serve the Nation Windle Trust World Food Program (WFP) World Relief World Vision International

The Assessment Working Group comprised of:

Ministry of General Education and Instruction Girls' Education South Sudan (GESS) Hold the Child (HCO) IBIS/Oxfam Peace Corps Organization (PCO) Partners on Education Group (PEG) Plan International Norwegian Refugee Council (NRC) Save the Children International (SCI) Solidarity with South Sudan UNICEF World Food Program (WFP)

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1. EXECUTIVE SUMMARY

Background

Due to the deterioration of the security and economic situation in South Sudan in 2016, donors requested the Education Cluster to assess the situation of the education sector in order to inform strategic level decision making on the most effective response. This assessment is a consolidated effort of the Ministry of General Education and Instruction, Cluster members and the Assessment Capacities Project (ACAPS) towards determining the impact of the most recent conflict, displacement and economic crisis on children's education in South Sudan. The assessment employed a two-pronged approach: a comprehensive questionnaire which was administered in 393 primary schools (the findings of which are representative at the national level) and a light questionnaire administered to 76 County Education Officials (to enable geographic prioritization). Data collection took place in November 2016.

Key findings

1. School functionality (page 17)

- At the time of the assessment, 25% schools which were open at any point since 2013 were found to be non-functional. The large majority of schools closed due to insecurity, followed by the delayed or non-payment of teacher salaries.
- At least 31% of schools open during the time of the assessment had suffered one or more attack by armed groups or forces since December 2013.
- On average, functional schools had lost more than 6 weeks of education in 2016 by the time of the assessment 4 weeks as a result of a late start and 2.3 weeks due to interruptions during the school year.

2. School characteristics (page 24)

- Around 25% of schools were open air, a tent or only a roof.
- 81% of schools had received support from external actors in 2016. The most commonly mentioned received form of support were teaching and learning supplies.

3. Enrolment, attendance and drop-out (page 27)

- The assessment found a decrease of 10% in the number of students enrolled at the start of 2016 compared to the start of 2013.
- The drop-out rate in 2016 was 11% for boys and 10% for girls.
- The number of students attending on the day of the assessment, as a proportion of the number of students enrolled at the start of the year, was 66% for girls and 70% for boys.
- Reasons for dropout differ slightly to reasons for non-attendance however it is clear that the lack of food is consistently a main factor.

4. Teachers (page 32)

• Compared to the average number of teachers registered at the start of 2016, teacher presence on the day of the assessment had decreased by 31%. Delayed or non-payment of salaries accounted for the majority of reasons for teacher absence.

5. Priorities for intervention (page 36)

• Key informants were asked to state what they perceive to be the three priority areas of intervention. Both county officials and key informants in schools prioritized teaching and learning supplies over all other types of interventions.

Analysis of key findings

A review of the key findings highlights the following patterns:

Underlying issues: While the assessment primarily focuses on the impact of the crises since December 2013, it also identified a range of chronic underlying issues that continue to impact the provision of education in South Sudan. These include long travel distances to and from school, a large deterioration in access during the rainy season, livelihood concerns and socio-economic factors. These are likely exacerbated by the ongoing conflict and economic crisis.

Livelihood and economic factors are primary reasons for dropout and non-attendance. A lack of food was a consistently reported as the main cause of dropout across the country. Amongst girls however, the principal cause of dropout and non-attendance was marriage, and pregnancy was also a significant factor. Long travel distances to school and the inability to pay schools fees were cited as other major reasons for dropout amongst both boys and girls.

The protracted economic crisis has compounded the situation: delayed or non-payment of salaries was consistently reported as an issue. More so than insecurity, the issue of salaries was the main reason for teacher absenteeism across the country. Between the start of the year and the day of the assessment, teacher presence had reduced by 31%. The lack of salary payment was also a commonly reported reason for schools becoming non-functional.

Another top priority identified by key informants was the provision of teaching and learning supplies, followed by school feeding and rehabilitation of infrastructure. These priorities should be seen in light of the support that is already being provided to schools. It can be assumed that they would be different if the current support was removed or altered.

Impact of insecurity: Over the past three years, the conflict and widespread insecurity has severely worsened the status of education across the country. 25% of the schools assessed were found to be non-functional at the time of the assessment and insecurity was overwhelmingly reported as the main cause of school closures since 2013. The assessment results show a drop in enrolment of nearly 10% between 2013 and 2016, partly caused by insecurity. In 2016, there was a higher number of weeks of education lost compared to 2015. 55% of schools lost at least a week of learning activities in 2016, as compared to 26% in 2015. 16% of schools lost more than a month of schooling. This change in trend is largely due to the spike in violence in Bahr el Ghazal since February and the spread of conflict across the Equatorias since July 2016.

These national averages mask stark regional differences:



Methodology: The ranking is based on county level data regarding the percentage of schools that became non-functional in 2016 and the drop in enrolment between 2013 and 2016. The values were assigned different weights and aggregated using the maximum score. Note that this data provides a snap-shot of the situation at the time of the assessment.

Greater Upper Nile has been most affected by the impact of the conflict over the past three years, with a number of counties including Leer, Koch, Rubkona, Bailet, Guit and Malakal amongst the most severely affected. According to county level key informants, 36% of schools are closed, compared to 23% in the Equatorias and 15% in Bahr el Ghazal. Closures were mostly due to the high levels of insecurity. 63% of functional schools in Greater Upper Nile have faced at least one attack of some kind, compared to 25% in the Equatorias and 11% in Bahr el Ghazal. Likely due to the impact of the conflict, there was a significant drop in enrolment in Greater Upper Nile unlike in other parts of the country: 180,000 fewer students were enrolled in 2016 compared to 2013.

Prior to the conflict, access to education in Greater Upper Nile was already dire. During the rainy season 80% of schools are only accessible by foot, this is almost double the percentage of those only accessible by foot during the dry season. The ratio of female to male teachers was the lowest in the country: only 9% of teachers were female.

Equatorias: In line with recent shifts in conflict dynamics, more than 93% of schools are in areas that have faced some form of conflict since the start of 2016, according to key informants. The majority of schools which were non-functional at the time of the assessment closed on account of insecurity. The Equatorias had the highest proportion of schools reporting

at least one week of interruption to education at 85%. The education system in Morobo, Lainya and Yei counties has been particularly affected by the impact of the crisis, where more than 95% of schools were closed at the time of the assessment.

The underlying development situation is better in the Equatorias than elsewhere: the ratio of girls to boys enrolled at the start of the year was highest, with girls comprising 44% of those enrolled. Physical access conditions are also the most stable between the rainy and dry season.

In the Equatorias it was also reported that in 100% of functional schools with government teachers, at least seven months of salary had been received (out of ten to be received by the time of the assessment). This is in comparison to 85% in Bahr el Ghazal and 78% in Greater Upper Nile having received seven months of salary or more. Despite this finding, the Equatorias were the only area where key informants at the school level reported payment of teachers' salaries as the top priority intervention from their perspective.

Bahr el Ghazal: In comparison to other parts of the country Bahr el Ghazal has been least affected by the conflict, with over 40% of the area considered stable at the time of the assessment. Despite this, the crises have nonetheless impacted upon education in the area. There has been a steep increase of schools having faced at least one week of education lost between 2015 and 2016 (from 10% of schools in 2015 to 48% in 2016), primarily due to insecurity. The types of attacks in Bahr el Ghazal have been limited to theft, looting and attacks against staff, where as elsewhere the types of attacks have been more varied. Although not as severely affected as parts of Greater Upper Nile and the Equatorias, areas including Aweil South, Aweil Centre, Rumbek North and Gogrial East are amongst some of the worst affected in Bahr el Ghazal. Despite insecurity, Bahr el Ghazal has seen a slight increase in enrolment since 2013. School feeding was highlighted by key informants in schools as the main priority intervention required.

2. INTRODUCTION

2.1 Rationale of the assessment and objectives

The interruption of education has immediate, medium and long term consequences for the stability and development of a country as children who are not in school will lack the structure and stimulation for healthy cognitive and psychosocial development. Furthermore, in South Sudan, a high rate of out of school children results in more children being at risk of military recruitment and other child protection concerns. Due to repeated and widespread interruptions of education services in South Sudan in 2016, the Ministry of General Education and Instruction, donors, development and humanitarian partners required additional evidence to ascertain the status of the sector throughout the country. The education cluster assessment was undertaken in order to inform strategic level decision making on education programming. The specific objectives of the assessment were to:

- 1. Provide key findings for in-country and external stakeholders to understand the situation in order to inform proposals and advocacy documents to increase financing for the sector;
- 2. Prioritize geographic areas according to needs and risks, and the most effective response for each area;
- 3. Provide recommendations on the most effective activities to resume education in a safe and sustained way, taking into account the possibility to link humanitarian and development responses.

This assessment focussed primarily on the impact of the crises on the education situation since December 2013. For more information on underlying factors hampering access to education in South Sudan, please refer to the EMIS 2015 and 2016 (underway, report expected at the start of 2017).

2.2 Context

Since the beginning of 2016 the humanitarian crisis in South Sudan has deepened and spread. Active conflict has been on going, affecting people in areas previously considered stable and exhausting the coping capacity of those already impacted. In June 2016 the security situation deteriorated around Wau in Bahr el Ghazal, with more than 100,000 people displaced in and around Wau town.² July 2016 then marked a significant deterioration: following four days of heavy fighting between government and opposition forces in the capital, violence spread across the country, including to the previously relatively unaffected areas of the Equatorias. Between late June and October nearly 300,000 people were displaced in the Equatorias and, as of November 2016, there were over 1.8 million internally displaced people in South Sudan.³

The humanitarian situation has been exacerbated by the economic crisis and food insecurity. South Sudan is almost exclusively reliant on oil revenue, however a decrease in production and plummeting oil prices led to rapid depreciation and increased inflation throughout 2015. In July 2016, the economic crisis worsened when inflation doubled to above 700%, before

² International Organization for Migration, 24 June 2016,

http://southsudan.iom.int/sites/default/files/IOM%20Wau%20Situation%20and%20Response%20Report%201%20-%2024%20June%202016.pdf

³ International Organization for Migration, 25 November 2016, <u>https://southsudan.iom.int/media-and-reports/press-release/population-displacement-continues-rise-south-sudan</u>

reaching an all-time high of over 800% in October.⁴

The standard of the education sector was already extremely low prior to the outbreak of civil war in December 2013. The 2013 EMIS found that around 3 in every 5 children of the official primary age were not enrolled in primary school. At the national level, 60% of the teachers were untrained or their professional gualification was unknown. Permanent and semipermanent classrooms only accounted for slightly more than half of all the classrooms in South Sudan, while the pupil-classroom ratio averaged 100. An assessment of learning outcomes in 25 schools confirmed that the quality of education provided is of concern, with the majority of learners in P3 unable to identify a word in their national languages or English⁵. Poverty and cultural practices also impact upon access, retention and progression, particularly for adolescent girls who are often forced into early marriage. For families, livelihood needs are often prioritized and children may be engaged in domestic support rather than attending school.

 ⁴ Trading Economics, 2016, <u>http://www.tradingeconomics.com/south-sudan/inflation-cpi.</u>
 ⁵ South Sudan Early Grade Reading and Mathematics Assessment Report, Montrose-UNICEF, 6 September 2016.

3. METHODOLOGY

This countrywide assessment covers primary schools in South Sudan, including functional and non-functional facilities as well as Government and non-Government owned schools. The assessment consists of three components: a review of secondary data, a county level assessment and a school level assessment. Field data collection took place in November 2016.

3.1 Data Collection

Assessment design

The primary data collection phase included key informant interviews with education officials on a county level regarding the situation within the specific counties and school visits to 393 schools. The school level assessment was designed to generate results that are statistically representative on a national level. To set-up the sampling frame, the EMIS 2013 and 2015 lists of schools were merged to reflect the most recent information available on schools across the country. From this list of 5,505 primary schools, 400 were randomly sampled. The sample was a six-strata, two-stage cluster sample. It was stratified by the three main areas (Equatorias, Bahr el Ghazal and Greater Upper Nile) and urban vs. rural areas. The first stage of the sampling process involved selecting twenty counties: the counties were selected so that in the urban segment of each area, two counties were included in the sample. The remaining 14 counties were chosen from those classified as rural, in rough proportion to the total number of rural counties in the three areas. For more information on the sampling design and survey estimates, see annex A.

A replacement strategy was put in place to account for schools that were not accessible, for instance due to insecurity. To maintain the random character of the sample, schools that were not accessible were replaced by the assessment team or field focal point by randomly selecting another school from the schools on the list for that specific region or payam.

Two data collection tools were developed: one questionnaire for the county level assessment and one for the school level assessment. These were developed through direct consultation with education experts and cluster partners. All questions asked were open-ended, with fieldcoded categories to facilitate data entry.

Primary data collection

At the end of October 2016, field focal points were trained in Juba on the assessment design, the assessment tools and the replacement strategy. Upon return to their field locations, the field focal points trained over 20 assessment teams from 17 different organizations. Almost all assessment teams consisted of one Ministry of General Education and Instruction and one NGO staff member.

For the county level assessment, state focal points from different NGOs helped to identify the most appropriate key informants. Over a three-week period, data was collected by the focal points and assessment teams via structured interviews with key-informants, including County

Education Officials and head teachers. Almost all interviews were conducted face-to-face. Only in rare cases, for instance because of pressing security concerns, were county level assessments conducted via telephone. Eventually, key informants in 76 out of the 78 counties were consulted. As for the school level assessment, 393 schools out of the targeted sample size of 400 were reached and surveyed. While approaching the 400 originally selected schools, the assessment teams replaced 105 on the grounds that they were not accessible. The majority of replacements were done through a random selection from amongst the remaining schools on the lists in the respective area. The weights for the replacement schools were corrected downwards: this is because after the first set of counties had been selected, replacement counties were then selected from a smaller local pool.



Characteristics of key informants

Over 390 key informants were interviewed during the school level assessment. 277 (70%) key informants were head teachers. Others were mostly other education personnel including primarily deputy heads or other teachers. Only 16 key informants were female. 75% of the interviews were undertaken in English, 8% in Arabic and the remainder in Dinka, Nuer or a mix of languages. In 72 out of the 76 counties covered, education officials provided the data for the county level assessment. The remaining counties were covered by a combination of state and payam records and NGO information.

Data entry and analysis

Data entry, cleaning and processing took place in Juba at the end of November / start of December 2016. The school-specific results were obtained through statistical estimates using sampling weights, finite population corrections and post-stratification adjustments. For more information on the data analysis phase see Annex A. Depending on the research questions, the estimates were broken down by categories, including geographic areas, sex and time. After the initial analysis, a half-day joint analysis workshop was held to validate and complement the findings. Altogether, 28 people from 22 organizations involved in the assessment participated in the workshop.

A scale for remoteness

The indicator used for urban/rural schools in the initial design of the sample was based on a remote review of the situation and therefore not fully suitable for the analysis. Consequently, schools were categorised according to their 'remoteness' based on the data collected. The level of accessibility of schools is based on data that reveals how the school can be accessed throughout the year and the travel time from the county capital (expressed in minutes walking). The darker the colour, the more remote the location of the school.

	0-45 min.	45 min. to 2 hours	More than 2 hours
Car/Motorbike – All seasons	0	1	2
Car/Motorbike – Only in the dry season	0	2	3
Only by Foot	1	3	3

Data quality

There were several measures put in place to improve the reliability of the data and analysis:

- Assessment teams were encouraged to verify figures provided by key informants with available records and to observe the number of students and teachers present during school visits.
- The source of information for key figures including attendance or enrolment were recorded by assessment teams. 85% of the 2016 enrolment figures for functional schools were based on school enrolment records. These figures were unavailable for 15% of schools therefore assessment teams had to rely on head teacher estimates.
- Three key pieces of information were gathered through both the county and school level assessment (enrolment trend between 2013 and 2016, attendance rates and school functionality). A comparison of the results with other information sources allowed for cross-checking and additional triangulation of data.
- The findings were reviewed by country and education experts during a review process and joint analysis workshop.

Secondary data

A review of secondary information, including other assessment reports, situation reports, the EMIS reports, and SSAMS data, informed the design of the primary data collection. Ongoing processing and analysis of available secondary data has been used to triangulate and supplement the primary data.

Assessment timeframe

Timeframe
15 - 30 October
Continuous
01 - 23 November
17 - 25 November
20 November - 6 December
9 December

3.2 Assessment limitations and constraints

- Limitations in scope: The assessment does not cover the PoC sites and schools in refugee camps. This is because PoC and refugee schools receive significant support from the Education Cluster and UNHCR, hence are not representative of the status of the national education system.
- **Quality**: The assessment was not designed to capture the quality of education provided due to time limitations and the fact that learning outcomes have already been covered through other assessments⁶. For instance, while attendance rates are generated by the assessment, this does not provide insights on the actual hours spent learning.
- **Inaccessible sample members**: 105 schools were not accessible during field data collection and had to be replaced, primarily due to insecurity or because schools did not exist in the stated area. As the situation in these schools is unknown, it is unclear to what extent this has influenced the end results.
- **Sample frame**: The sampling frame is derived from the EMIS list of schools (for 2013-2015). As a result, schools which are not on that list, for instance those which have opened since late 2015, were not included in the sample frame. The estimates, therefore, suffer from an under-coverage bias regarding newer schools.
- Respondent Bias: As far as possible, the information collected has been validated. However, this cannot fully mitigate the impact of possible key informant bias. Some head masters and county officials may have an incentive to make the situation appear worse or better, depending on the situation. In addition, the overwhelming majority of key informants (96%) were male which might have influenced results on for instance reasons for girls drop-out and non-attendance.

⁶ For example, South Sudan Early Grade Reading and Mathematics Assessment Report, Montrose-UNICEF, 6 September 2016.

- **Out of school children:** The assessment is primarily a facilities survey, not a community survey. As such, it cannot provide the denominator needed in order to estimate the proportion of primary-school age children who are out of school.
- Shelf life data: The findings represent a snap-shot of the situation at the time of the assessment and are only relevant in as far as the situation does not significantly change.
- Inter-school differences: Within this assessment, the school is processed as one unit. This means that the assessment does not capture the differences within schools, such as the attendance rates for different grades.

Report structure and priority visuals

Each chapter starts with a summary of the key findings, followed by an overview of the information sources used to inform the analysis. This report combines three types of information: information collected at the school level (also referred to as school level assessment), a geographic assessment (also referred to as the 'county level assessment' or 'information provided by education officials') and secondary data. Most of the information was collected at the school level; it supplies the bulk of the reported findings. Differences among specific areas (Equatorias, Bahr el Ghazal and Greater Upper Nile) were often striking, primarily due to the differing conflict dynamics and socio-economic situation. Therefore they are the most common type of comparisons made within the report. Where confidence levels or intervals are available, they are given in a footnote.

Several questions asked key informants about their perspectives on current priorities. One example is 'What would be the top three most effective activities to support re-opening of this (closed) school'. The aggregation of their responses is calculated through a so-called 'Borda count', a method of preference aggregation. Heat-maps are used to visualize the responses and their relative importance, with a darker orange colour indicating a higher priority.

4. FINDINGS

4.1 School functionality

Summary: At the time of the assessment, 25% of schools which were open at any point since 2013 were found to be non-functional. The large majority closed due to insecurity, followed by the delayed or non-payment of teacher salaries.

The assessment revealed that widespread attacks against functional schools have occurred since December 2013, with at least 31% of schools open during the time of the assessment having suffered one or more attack by armed groups or forces.

On average, functional schools had lost more than 6 weeks of education in 2016 by the time of the assessment – 4 weeks as a result of a late start and 2.3 weeks due to interruptions during the school year. 16% of schools lost more than a month of schooling in 2016, primarily because of insecurity.

Interruption of education was found to be more widespread in 2016 than in 2015: from all schools which were functional at the time of the assessment and provided data on both 2015 and 2016, 26% faced at least one week of loss of education in 2015 compared to 55% in 2016.

Sources of information

In the first three weeks of November 2016 data on functionality of schools was collected at both a school level and a county level. When schools were found to be non-functional, enumerators travelled to a nearby village to obtain information on the reason why the school had closed. At a county level most of the information regarding the number of schools that either remain open, or that closed this year, is based on official records. While the school level assessment reveals the number of schools that have closed since December 2013, the county level assessment captures school closures since the start of 2016.

Non-functional schools

Of the schools visited during the school level assessment, 25% were found to have become non-functional⁷ at any point since 2013.

The ownership of the school was found to have no impact on whether the school was functional: of all non-functional schools visited, 67% were government owned, compared to 66% of all schools assessed.

Schools non-functional at the time of the assessment 25% of schools were nonfunctional



⁷ A school is considered 'functioning' if there is a presence of a head and/or at least one teacher, classes take place irrespective of the number of students.

The county level assessment found that out of the 4,000 schools held on record, 967 closed in 2016. In Greater Upper Nile 36% of all schools were closed, 23% of schools in the Equatorias and 15% of schools in Bahr el Ghazal. At the time of the assessment no schools in Morobo and Lainya (Equatorias) and Panyikang (Greater Upper Nile) were open.

Impact of violence on school closure

The results show a strong correlation between school closure and the levels of violence in an area. Key responding informants to the county level assessment were asked to judge the types of violence and levels of insecurity in their county since the start of 2016. They were briefed on how to differentiate between sporadic and active conflict and communal violence.8 The vast majority of schools in South Sudan were located in areas that have faced insecurity since the start of the year: this includes 29% of schools in areas with communal violence (21 counties), 26% in areas with frequent active conflict, (19 counties), and another 26% in areas with sporadic active conflict (21 counties). Only 19% of all schools were in areas considered stable (15 counties). In line with the broader conflict dynamics this proportion differs between geographic areas. While in Bahr el Ghazal, 39% of schools in the area were in areas that are deemed stable, in both Greater Upper Nile and Equatorias, less than 7% of schools in each area where in stable areas.





At 49%, almost half of all schools in areas where frequent active conflict had occurred since the start of the year were closed at the time of the assessment. 19% of schools located in areas with communal violence have closed. The proportion of schools closed in stable areas and areas with sporadic active conflict is almost the same at around 12%.

Reasons for closure

Insecurity and/or the consequent fleeing of teachers and students were overwhelmingly reported as the main reasons for school closure by key informants at both the county and school level. At a county level, 76% of schools closed in 2016 closed due to insecurity. It was the main reason for closure in all three areas, but was highest in Equatorias where it accounted for 90% of non-functional schools. This reflects the expanding nature of the conflict, to areas that prior to 2016, were relatively stable. Even in areas of the country that are considered stable, insecurity was still stated as the main reason for closure: Almost half of the 86 schools which were closed in stable areas were closed due to insecurity.

⁸ The categories 'sporadic' and 'frequent' communal violence have been aggregated in to one category 'communal violence' as the results showed no significant differences between the two settings.

Reasons for school closure by area (% of schools closed)



Insecurity is the main reason for school closure followed by lack of salary payment

Both assessments also showed that the delayed or non-payment of salaries was the second most commonly stated reason for closure nation-wide. In areas that were considered stable, non-payment of salaries was the most commonly reported reason for school closure in 2016.

However, across geographic areas, the second most commonly stated reason for school closures in 2016 differed from the national average: in Greater Upper Nile it was the non-payment of salaries, accounting for 16% of closures. In the Equatorias both food insecurity, and delayed or non-payment of salaries were the second most commonly stated reasons, however both only accounted for 3% of all school closures. In Bahr el Ghazal the second most commonly stated reason was looting, which accounted for 15% of closures: 10% of schools reported looting by armed groups, with the remaining 5% citing looting by civilians. Flooding accounted for 13% as the third most commonly referred to reason for closure in Bahr el Ghazal: Gogrial West and Twic counties were most affected.

Requested areas of intervention for non-functional schools

Respondents of the school level assessment were asked to prioritize the three areas of intervention they felt non-functional schools most required in order to become operational again. The most commonly stated need was the rehabilitation of infrastructure. The second most commonly stated need was teacher salaries, and the third was the need for teaching and learning supplies.

Perspectives on priorities⁹ **for non-functional schools** *Rehabilitation of infrastructure and teacher salaries were reported as the main priorities required to re-open non-functional schools*



⁹ These findings are based on the key informants perspective on the top three interventions required. The summary of the responses for all key informants is calculated through a so-called 'Borda count', a method of preference aggregation. A darker colour indicates that this issue was perceived by key informants as more important than other issues listed.

Attacks against schools since December 2013

In addition to attacks resulting in the closure of schools, the assessment also revealed widespread attacks by armed groups and forces against schools which were still functional at the time of the assessment¹⁰: 31% of schools open during the time of the assessment have suffered at least one or more attack since December 2013.¹¹ The results show that this has overwhelmingly been the case in Greater Upper Nile, specifically in urban areas. 63% of functional schools in Greater Upper Nile have faced at least one attack of some kind, compared to 25% in the Equatorias, and in 11% in Bahr el Ghazal.

% of schools which have been attacked at least once since 2013 63% of schools in Greater Upper Nile have faced one or more attacks



Around 16% of all schools reported being hit by bullets: this includes 30% of schools assessed in Greater Upper Nile and 4% of in the Equatorias. However, almost no schools reported this type of attack in Bahr el Ghazal. Around 11% of schools have seen occupation of classrooms by armed forces/groups: this includes 20% of schools in Greater Upper Nile, 12% in the Equatorias and 4% in Bahr el Ghazal. In Greater Upper Nile, the use of schools for military recruitment was reported in 6% of schools, while there were almost no reported incidents of this kind in the other two areas.

Burning of schools was almost never reported in areas outside of Greater Upper Nile, however 21% of schools inside Greater Upper Nile reported this type of attack to have occurred on one occasion.

The only type of attack that was reported more frequently outside of Greater Upper Nile than inside of Greater Upper Nile, was direct attacks on staff or students: 12% of schools in the Equatorias reported incidents of this kind, compared to only 5% in Greater Upper Nile. In Bahr el Ghazal this was also reported in 7% of schools.

In addition to attacks against schools by armed groups or forces classified as such by the Security Council Resolution 1998, schools faced widespread incidents of theft and looting by civilians or armed groups or forces. 34% of schools open during the assessment reported at least one incident of this kind, including 55% of schools in Greater Upper Nile, 23% in the Equatorias and 27% in Bahr el Ghazal.

¹⁰ 'Attacks on schools' is an umbrella term in respect of both indiscriminate and direct attacks against schools that are civilian objects, resulting in their compromised functioning, partial damage or total destruction, as well as against related protected persons (teachers, students and other education personnel). Such incidents include: physical attacks, looting, pillaging and wanton destruction. In the case of related protected persons, such incidents include: killing, injuring, abduction, and use as human shields. Office of the Special Representative of the Secretary-General for Children and Armed Conflict, *Protect Schools* + *Hospitals, Guidance Note on Security Council Resolution 1998*, United Nations, New York, 2014.



Weeks lost

Late start: According to the 2016 school calendar, schools were due to start in the first week of February. On average, most schools started one month later. However, this number is influenced by a small number of schools that started more than two months late (10% of schools).¹² More than 45% of schools started on time. There is a clear difference between geographic areas, with much more schools in Greater Upper Nile starting late compared to elsewhere.

Temporary closures: Since the start of the school year in 2016, 55% of schools closed temporarily, primarily due to insecurity. 16% of schools lost more than a month of schooling. While Greater Upper Nile had the highest percentage of schools that were non-functional and those that started late, the schools that were functional at the time of the assessment had the fewest interruptions. The large majority of functional schools in Greater Upper Nile did not face weeks lost since opening, compared to 85% of functional schools in the Equatorias that faced interruptions. Between the start of the school year and November 2016, schools that were functional at the time of the assessment lost on average more than two weeks.

2015 to 2016: Comparison over time reveals that interruption of education was more widespread in 2016. From all schools which were functional at the time of the assessment and provided data on both 2015 and 2016 (around 70% of the sample), 26% faced at least one week of loss of education in 2015 compared to 55% in 2016. This difference is primarily caused by an increase in the number of schools affected in the Equatorias, mostly due to insecurity and delayed or non-payment of salaries, and in Bahr el Ghazal, due to insecurity. The proportion of schools which have face interruptions of education in Greater Upper Nile remained the same in 2105 and 2016, at around 30%.

¹² The South Sudan school calendar begins in February; however there are some schools in the country that still follow the school calendar from Sudan, which starts in April. While some schools make up for the delay in weeks lost, this is not a guarantee.



4.2 School characteristics

Summary: The proportion of schools only accessible by foot doubles in large parts of the country during the rainy season. Poor accessibility is particularly an issue in Greater Upper Nile.

Just over 38% of schools in South Sudan have permanent infrastructure, and it is clear that the standard of infrastructure declines as the location becomes more remote. The majority of schools were found to be government owned.

The assessment also found that the vast majority of functional schools had received at least one visit from education authorities as well as having received some form of support since the beginning of the year. The most commonly received form of support was teaching and learning supplies, with more than half of functioning schools claiming to have been assisted in this way.

Sources of information

The information on school characteristics is based on the school visits. The information which could be observed (such as the infrastructure of the building) is based on direct observation by the assessment teams, while other data was provided by the key informants such as head teachers. Most of the findings are in line with the EMIS 2015 data, which confirms that the sample is representative at a national level.

Access

During the dry season 63% of schools are accessible by motorbike and car. This decreases by almost half during the rainy season when only 43% of schools across the country are accessible by motorbike and car. Schools in Bahr el Ghazal are most easily accessible while Greater Upper Nile has the highest proportion of schools only accessible by foot in the rainy season. However, in both geographic areas the number of schools that are only accessible by foot during the dry season doubles with the onset of the rainy season. In Greater Upper Nile this means that 80% of schools are only accessible by foot during the rainy season, compared to 41% in Bahr el Ghazal and 52% in the Equatorias. The impact of the rainy season is less severe in the Equatorias, where the number of schools only accessible by foot does not alter significantly. This can be partly explained by the concentration of schools in and around Juba, where roads are mostly paved.



% of schools only accessible by foot during the dry and rainy season: 37% of schools are only accessible by foot, even during the dry season

Infrastructure

38% of the sampled schools were permanent structures, and 37% were semi-permanent structures (which includes temporary learning spaces). Around 25% of schools were open air, a tent or only a roof. This reaffirms the representativeness of the sample, as these proportions are in line with 2015 EMIS results.

The results show a clear correlation between the standard of infrastructure and the remoteness of a school. It is overwhelmingly the case that the majority of open-air schools were in areas that are more remote. In areas where travel time from the county capital to the school is very short almost 60% of schools were permanent structures, 35% are semi-permanent and only very few open-air.

Ownership

66% of schools were government owned, while 34% were either community owned, private, religious, or run by NGOs. The largest proportion of government owned schools compared to community or NGO owned schools was in Bahr el Ghazal where almost 80% of schools assessed were government owned.

Support to schools

Across all areas around 90% of schools reported that the Parent Teacher Association and/or the School Management Committee had met at least once since the start of the year. While this is a high proportion, it can be explained by the fact that the presence of a functional PTA is a prerequisite for support from some external actors such as GESS and WFP.

Over 80% of the functional schools visited during the assessment had received at least one visit from education authorities since the start of 2016. The number of schools visited was slightly higher in the Equatorias, where over 90% of schools had been visited at least once while only 4% had not received a visit. In both Bahr el Ghazal and Greater Upper Nile, 15% of schools in each area had received no visit since the start of the year. It should be noted that the assessment teams often included MoGEI staff specifically tasked with these school visits, which may have influenced the key informant's response to this question.

There is little difference between numbers of visits paid to schools in remote areas compared to those located closer to a town. Similarly, whether the school is government owned or otherwise, there is no significant difference recorded between the number of times it was visited by education authorities in 2016.

Respondents were asked to indicate whether the school had received support in 2016. They were asked to specify the type of support received and the actor that provided it. The results show that the vast majority of schools, 81%, had received support from an external actor (NGOs, UNICEF, WFP, UNMISS) of some kind. This is a very high figure, primarily because it covers all sorts of support received, from small community donations to frequent school feeding. The most commonly received form of support was teaching and learning supplies, with more than half of functioning schools claiming to have been assisted in this way. Almost

half of the schools claimed to have received school grants, while 39% had received cash grants for pupils. 39% of schools also stated to have been provided with teacher training. 27% had received teacher salaries and incentives, 16% had been assisted with infrastructure rehabilitation and 14% had been assisted with school feeding.

% of schools by type of support received in 2016 (multiple types of support possible) More than half of the schools received teaching and learning supplies while almost half received school grants



Half of the schools had received support from more than one organization since the start of the 2016 school year. More than half (55%) of all functional schools received support from cluster members and other education actors. 55% of schools had received support from GESS¹³. It should be noted that the assessment includes all schools, including under P5, where GESS is not intervening. 13% of schools received support from WFP, while 16% of schools were served by Room to Learn at least once since the start of the year.

¹³ Girls' Education South Sudan (GESS) is a programme which aims to increase enrolment, retention and levels achievement for girls through provision of direct cash transfers to girls, capitation grants to schools, and enhance community awareness of and support for girls' education.

4.3 Enrolment, attendance and drop out

Summary: The available county level data shows a decrease of 10% in the number of students enrolled at the start of 2016 compared to the start of 2013. A significant drop in enrolment is evident in Greater Upper Nile where at least 180,000 fewer students were enrolled at the start of 2016 compared to the start of 2013.

At the time of the assessment, the dropout rate since the beginning of the 2016 school year was 11% for girls and 10% for boys. The number of students attending on the day of the assessment, as a proportion of the number of students enrolled at the start of the year, was 66% for girls and 70% for boys. The Equatorias had the highest rate of attendance (77% for boys and 76% for girls).

Reasons for non-attendance differ slightly to reasons for dropout however it is clear that a lack of food, either at home or in school, is a key factor for both boys and girls. For girls, marriage and pregnancy are also top reasons for dropout.

Sources of information

Data on enrolment, dropouts and attendance was collected at both a county level and during the school visits. Assessment teams were instructed to review enrolment records, if available, and crosscheck attendance records with key observations. In 85% of functional schools, enrolment records were available for 2016. This drops to around 30% for the year 2013. Data for schools where official records were not available is based on head counts and teacher estimates. The availability of records differs between areas, with the lowest proportion of schools with records in Greater Upper Nile, at 80% of schools having some sort of record for 2016 enrolment figures.

On a county level, historical records were more likely to be available. For about 60% of all schools covered under the county assessment, records on enrolment for 2013 were available at a county level.

Enrolment

The available county level data shows a decrease (10%) in the number of students enrolled at the start of 2016 compared to the start of 2013¹⁴. Between 2013 and 2016, the total number of students enrolled increased slightly in Bahr el Ghazal and the Equatorias. However, this was balanced out by the significant drop in number of students enrolled in Greater Upper Nile, where at least 180,000 fewer students were enrolled at the start of 2016 compared to the start of 2013.

While the county level data indicates that the overall number of students enrolled in South Sudan has decreased by 10%, the average number of students enrolled in schools that remained functional has remained the same. The school level data shows a reduction of average enrolment figures between 2014 and 2015 and an increase again in 2016. At the start

¹⁴ Please note that this information covers only the 64 areas, or around 90% of the schools, which provided data on both 2013 and 2016 enrolment levels.

of 2016, there were an average of 504 students enrolled in functional schools, up from around 478 in 2015. This is likely to be a reflection of a higher concentration of students in a lower number of functional schools, rather than an actual increase in overall number of students enrolled since 25% of schools closed since 2013.

Sex ratio

31% of those enrolled at the start of the year were girls. This means that there were seven girls for every ten boys enrolled. This is a slight improvement since 2013, when the ratio was six girls to every ten boys. There are statistically significant regional differences. The ratio of girls to boy in schools is highest in the Equatorias, where there are nine girls to every ten boys, and lowest in Greater Upper Nile where there are six girls to every ten boys.

The data on sex ratio captured on a school level is in line with the county level information. Across 71 counties where sex specific enrolment data for the start 2016 was available, 39% of those enrolled were female. At 44% the Equatorias had the highest proportion of girls enrolled, compared to 38% in Bahr el Ghazal and 36% in Greater Upper Nile. The results do not show a significant difference between stable areas or those facing conflict.

Additional regression analyses on enrolment rates and sex performed by the Sudd Institute indicates that it is more likely for boys to drop out in areas exposed to violence compared to girls¹⁵.

Attendance

The school level assessment reveals that the number of students attending on the day of the assessment, as a proportion of the number of students enrolled at the start of the year, was 66% for girls and 70% for boys in all functional schools. The Equatorias had the highest rate of attendance (77% for boys and 76% for girls).

When comparing geographic areas, the data indicates that the largest difference between boys and girls is in Greater Upper Nile with fewer girls attending, while in the Equatorias attendance rates are almost the same.

According to data gathered at a county level, the overall attendance trends are consistent with expectations: in areas where key informants indicated that the size of the population has increased (due to a likely influx of IDPs), attendance exceeded enrolment, with an average attendance rate of 102%. Attendance is highest in stable areas (95%), and lowest in those with frequent active conflict (81%).

¹⁵ This analysis is based on a review of enrolment rates over time for schools exposed to violence. The analysis is limited to those schools sampled which were open since 2013 and able to provide enrolment data for the years 2013 to 2016. The analysis found that in these schools, on average, 52 fewer boys enrolled in 2016 compared to 2013. This is significantly different from the drop in girls enrolled, at 15 girls fewer enrolled in 2016.

Attendance and drop-out rates

While drop-out rates are similar, the attendance rate is slightly lower for girls (66%) compared to boys (70%)



Key informants within the visited schools were asked about the estimated proportion of students that attend almost every day: in only 4% of schools *all students* were said to attend every day. In about another half of the schools, *almost all students* were said to attend every day. In an additional 10% of schools *less than half of the students* attend on a daily basis. No remarkable difference between geographic areas was captured within the results of this question.

According to key informants, the top reasons for not attending school regularly for both boys and girls is the lack of food. This was ranked significantly higher than all other reasons. The data does not differentiate between lack of food at home and in school. Illness was reported as a top reason for non-attendance for both boys and girls, although this was more highly prioritized for girls than it was for boys. Top reasons for boys not attending also include having found paid work and a long distance to travel. Insecurity was ranked as a top reason for girls not attending, while this was reported as less of reason for boys. These findings should be viewed in consideration of how seasonal changes may affect attendance. There are times when students are more likely to be out of school in order to support planting and harvesting activities (typically in March-May and October-December).





Annual dropout

The difference in the rate of dropout between boys and girls since the start of the year is not significant at 11% for girls and 10% for boys. Nor is there a particularly significant difference in the rate of dropout across geographic areas. It should be noted that this reflects the recorded

¹⁶ These findings are based on the key informants perspective on the top three interventions required. The summary of the responses for all key informants is calculated through a so-called 'Borda count', a method of preference aggregation. A darker colour indicates that this issue was perceived by key informants as more important than other issues listed.

drop-out rate at the time of the assessment. The actual rate is likely to be higher at the end of the year.

Reasons for dropout differ slightly to reasons for non-attendance however it is clear that the lack of food is consistently a main factor, again the data here does not differentiate between lack of food at home and in school. For boys the lack of food is the top cause of dropout, while for girls it is second most common cause, after marriage. The inability to pay school fees was a top cause of dropout for both boys and girls, although this was ranked as less significant for girls for whom pregnancy was reported on as a more common cause of dropout. Long travel distance and insecurity were also amongst the main reasons for dropout for both boys and girls, though both were ranked higher for boys. There is little difference for the top cause of dropout amongst boys is the inability to pay school fees, rather than the lack of food.

Main reasons why boys and girls are dropping out

Key informants perceived the lack of food as the main reason for dropping out for boys and marriage for girls



Although not amongst the top reasons, other commonly cited causes of both dropout and nonattendance include various forms of domestic duties, including household chores, planting, harvesting and cattle rearing.

In schools where less than 25% of students had dropped out, most have done so because of reasons that affect people individually. This includes marriage and pregnancy as some of the top reasons for girls, and the inability to pay school fees or having found paid work for both boys and girls. In schools where the dropout rate is above 50% of students enrolled, the top cause is most likely due to reasons that affect people collectively, including the lack of food and level of insecurity in an area.



4.4 Teachers

Summary: 38% of teachers present at the time of the assessment were government teachers and 84% were male. The lowest proportion of female teachers was found in Greater Upper Nile (9% of teachers present).

Compared to the average number of teachers registered at the start of 2016, teacher presence on the day of the assessment had decreased by 31%. The drop was most significant in Bahr el Ghazal (a 37% decrease in teachers compared to the start of the year).

Delayed or non-payment of salaries accounted for the majority of reasons for teacher absence, however almost 70% of the total number of functional schools with government teachers had received seven or eight months of salaries by early November. 70% of non-government teachers, which includes community teachers and volunteers, received some sort of incentive.

Teacher presence

There is a large difference between the number of teachers registered at the start of the year and those present at the time of the assessment in functional schools. On average 12 teachers were registered in each school at the start of the school year and there was little difference in the average number of teachers across geographic areas. On the day of the assessment, there were on average eight teachers present in each school, marking a decrease of 31%.

At a regional level the loss of teachers was greatest in Bahr el Ghazal, where only 63% of teachers present at the start of the year were present on the day of the assessment, compared to 70% in Greater Upper Nile. The drop was lowest in the Equatorias, where 77% of teachers present at the start of the year were still present in functional schools on the day of the assessment. In some schools all teachers were present because they were administering examinations on the day of the assessment. Overall, there has been a larger decrease in the number of male teachers compared to female teachers, however the baseline for male teachers was much higher. At the time of the assessment there was no significant difference between the reductions in government teachers compared to the reduction in non-government teachers.

Teacher salaries

The main reason for teacher absence according to school level key informants is the delayed or non-payment of salaries. Salary payments have been disrupted since the start of the year, but the situation worsened after the violence in July and the record high inflation rates that followed. Respondents at the school level were asked to state the number of months that teachers in the school had received salaries in 2016. At the time of the assessment, in November, teachers should have received 10 months of salary. Almost 70% of functional schools where government teachers were present reported receiving eight months payment, while 15% received seven months. Two to three months' payment were therefore yet to be

received. According to regular field updates, salary payment is systematically delayed by several months. ¹⁷¹⁸¹⁹

Months of salaries received (% of functional schools with government teachers present) – *In the Equatorias, all schools where government teachers were present received 7 to 8 months of salary*



The Equatorias had the highest frequency of salary payment, with all schools where government teachers were present reporting seven or more months of payment received. In Bahr el Ghazal 84% of schools reported receiving salaries in the last seven months or more. In Greater Upper Nile 74% of schools reported receiving salaries for at least seven months. These results reflect the number for the majority of the government teachers within a school and do not take into account possible differences of salary payment within schools.

Non-government teachers (including community teachers, volunteers and teachers in private schools) received fewer incentives than government teachers received salaries: only 38% received seven or eight months of incentive, while 29% received no incentive since the beginning of the year. In the Equatorias, schools with community teachers received an average of eight months of incentives, compared to Bahr el Ghazal where community teachers received an average of three months, and Greater Upper Nile where the average was two months. Non-government teachers also includes volunteers, therefore they would not necessarily expect to receive incentives.

Teacher absence

When asked about the top three reasons why teachers are absent, key informants indicated that delayed or non-payment of salaries accounts for the majority of reasons for why teachers are absent in functional schools across the country. Given the scale of the economic crisis the value of the payment has also been reduced.²⁰

¹⁷ UNICEF bi-weekly sit-rep, NBeG, 22 July 2016.

¹⁸ UNICEF bi-weekly sit-rep, Warrap, 16 May 2016.

¹⁹ UNICEF bi-weekly sit-rep, Unity, September 2016.

²⁰ Trading Economics, 2016, <u>http://www.tradingeconomics.com/south-sudan/inflation-cpi</u>.

The second most reported reason is insecurity, which includes displacement, looting and physical attacks. The difference between lack of salaries and insecurity as the cause for teacher absence is marginal. The third most pertinent reason is that teachers go in search of other work. Although not explicit in the results, it is possible that teachers who go in search of other work may do so due to the lack of salary payment therefore the two are likely to be connected. (For the impact of the lack of payment of salary and insecurity on the functionality of schools, see section 3.1).

The results do not alter significantly at a regional level compared to a national level. The same top three reasons for teacher absence apply in all geographic areas. No or delayed payment of salaries is however more important in Greater Upper Nile, ranking particularly high in comparison to other reasons for absence in the area.

Insecurity, as the second most commonly stated reason for teacher absence in all areas is of equal significance in the Equatorias and Bahr el Ghazal, while accounting for slightly less in Greater Upper Nile. This is interesting given over 90% of schools in Greater Upper Nile are perceived to be in insecure areas and reaffirms that no payment or delayed salaries in this area is the overriding concern. As is shown later in the report, the provision of teacher salaries is consistency reported on as a priority need in order to support the functionality of schools (see section 3.5).

Teacher characteristics

At the time of the assessment 84% of all teachers were male. At only 9%, Greater Upper Nile had fewer female teachers than elsewhere in the country, while the Equatorias had the highest rate of female teachers at 29%. There is no significant change in the sex ratio of teachers between those present at the start of the year and at the time of the assessment.

The assessment also revealed that 62% of teachers were non-government teachers. The rate of government to non-government teachers was not significantly different across geographic areas. The proportion of non-government teachers has not changed significantly compared to the start of the year, when 60% of those present were non-government teachers.

When comparing attendance of students and teachers on the day of the assessment, the results show that there is on average one teacher per 43 students, with the highest number of students per teacher in Greater Upper Nile (one teacher per 47 students). At the start of the school year, there was on average one teacher per 44 students.

Of the teachers present on the day of the assessment, information regarding the levels of teacher qualification was also collected. The results are much higher than results from the 2015 EMIS. Therefore, it is assumed that for this variable, a head teacher bias to inflate levels of education has distorted the findings. It is likely that some teachers are enrolled at a school or an educational institute but are yet to complete the level/programme, however they have indicated that they have already obtained the qualification. It was therefore decided to not include the qualification specific findings within the report.



4.5 Perspectives on priority interventions

Both the county and school level assessment asked key informants to state what they perceive to be the three priority areas of intervention. These perspectives should be seen in the light of the support that schools are already receiving from a range of actors (see section 3.2). If this support would be halted the type of required interventions are likely to change.

Both county officials and key informants in schools prioritize teaching and learning supplies over all other types of interventions. The results slightly differ between geographic areas. Key informants at a county level ranked this as the highest priority in Bahr el Ghazal and Greater Upper Nile. At a school level this was the number one priority in Greater Upper Nile and the Equatorias but not in Bahr el Ghazal. It is interesting that the provision of teaching and learning supplies is the top priority considering the fact that this has already been the most commonly distributed form of support (see section 3.2).

The school level assessment showed that the priority need in Bahr el Ghazal was school feeding. This is likely to be a particularly salient concern, given the high levels of food insecurity that have affected the area since the beginning of 2016. Although not the top priority, school feeding was also ranked highly in both Greater Upper Nile and the Equatorias at the school level. In the Equatorias this also scored relatively high at a county level.

Perspectives on priority interventions¹⁷

Both county and school level key informants see teaching and learning supplies as the highest priority for intervention.



At the county level teacher salaries were reported as the most needed form of support in the Equatorias and second most needed in Greater Upper Nile and Bahr el Ghazal. At the school level head teachers placed less emphasis on salaries in the Equatorias and Greater Upper Nile in comparison to other areas of required support. In Bahr el Ghazal the issue of salaries was still prioritized as the second most needed form of support.

The rehabilitation of infrastructure also appeared as a priority need in both assessments, with both key informants in schools and county officials ranking this as a high priority. In the Equatorias the provision of training for teachers was reported as one of the top priorities in both assessments.

²¹ These findings are based on the key informants perspective on the top three interventions required. The summary of the responses for all key informants is calculated through a so-called 'Borda count', a method of preference aggregation. A darker colour indicates that this issue was perceived by key informants as more important than other issues listed.

Despite the clear impact of the security situation on schools, including it being the main reason for teacher and student absence, and school closures, security for schools was not reported as a priority need. This is likely to be related to the fact that addressing security concerns is a complex and longer-term intervention. The provision of teaching and learning supplies, on the other hand, has an instant tangible outcome.

The remoteness of a school appears not to have affected what respondents perceived to be the most needed areas of support. The level of insecurity in an area also appears not to have significantly impacted the response. Teaching and learning materials and the rehabilitation of infrastructure are amongst the top priorities both in stable areas and in areas with frequent active conflict.

5. ANNEXES

ANNEX A: The survey sample

Out of a list of 5,505 primary schools with a known location, a sample of 400 was drawn, and 393 were surveyed. Sampling and survey estimations were done in the statistical program STATA, release 14 (Stata Corporation 2015). The sample size was driven by considerations of time and capacity, rather than desired precision of estimates.

The sample was stratified based on geographic areas and urban/rural (six strata). The definition of "urban" was, at the time of sampling, only partially valid. A school was considered urban if it was in a *payam* that hosted the capital of a state. No other information to classify schools as urban or rural was available; during the survey, data was collected that allowed for the formation of a remoteness index that provides a more realistic interpretation of what constitutes an urban area and what constitutes a rural area (the index is described further above).

Within each stratum, a number of counties were selected. However, since stratum and county intersect – the same county may appear in the rural and/or the "urban" area of a geographic area -, the primary sampling unit (PSU) was not the county, but the combination of stratum and county. Because the number of "urban" schools at the time of sampling was relatively small, they were deliberately over-sampled, by selecting two PSUs from the "urban" areas in each of the three geographic areas. Ultimately, schools were surveyed in 26 combinations of stratum and county; 25 were originally selected PSUs; one was the result of replacing an inaccessible school with one in an adjacent county, which thus became a de-facto PSU.

At the second stage, a representative sample regarding school ownership was drawn from the set of all schools that were then believed to be accessible within the selected PSUs. The sample was drawn using a representative sampling algorithm (Kontopantelis 2013); because government-owned and other schools were selected in proportion to their frame frequencies, the second-stage sample was treated as a simple random sample. In other words, there was no clustering at the second stage.

As already noted, a fair number of the selected schools had to be replaced. In the analysis, care was taken to adjust the sampling weights of the replacement units in order to reflect that they were selected from a smaller pool (e.g., from the not yet selected schools in the same *payam* as the inaccessible original sample member) and thus "represented" comparatively fewer schools than the non-replaced sample members did.

Survey Parameters

The final survey statistics are based on strata, sampling weights, finite population corrections (FPC) as well as post-stratification adjustments.

• The **sampling weights** express how many schools a sample school "represents". They vary depending on stratum, PSU and on whether the originally selected school was replaced, and how. The weights, before post-stratification, range from 1.50 to 10.43, with a mean of 7.59.

- The finite population corrections take into account that, at the first stage, PSUs were selected from a limited set of available county X urban/rural area combinations, and at the second stage, schools were selected from a limited set of accessible schools. Thus the number of theoretically possible samples is smaller than if they were drawn from infinite pools. As a consequence, the standard errors work out smaller, and the estimates are more precise than they would be under infinite population assumptions. The proportions of selected PSUs from all accessible ones among the six strata ranged from 0.25 to 0.67; the proportions of selected schools to all accessible ones in the 26 PSUs ranged from 0.02 to 0.71. The corrections are important only for the confidence intervals; they do not affect the point estimates of means, proportions, totals, etc.
- The **post-stratification** ensures that any imbalance between the relative size of the strata in the sample vs. in the national population of schools (as known in the sampling frame) is corrected. Practically, the sums of the sampling weights by stratum are adjusted to the proportions of the strata in the population, as taken from the sampling frame. For example, the frame lists 1,928 schools in rural Bahr el Ghazal within the 5,505 schools nationwide, or 35.0 percent. The sum of sampling weights in this stratum is 860.29 out of the nationwide total of 2,984.38, or 28.8 percent. Thus the weights on schools in rural Bahr el Ghazal were multiplied by a factor of (35.0 / 28.8) * (5,505 / 2, 984.38) = 2.241. When this procedure is applied to all strata, the adjusted weights conveniently sum to the number of schools in the frame, i.e. 5,505.

The thus adjusted weights range from 2.16 to 22.12, with a mean of 14.008. Thus 393 (sample size) * 14.008 (mean weight) = $5,505.144 \approx 5,505$ schools in the frame.

Design effects

The sample is a cluster sample (even if only in the first stage). The effective sample size, therefore, is smaller than the actual size of 393 surveyed schools. This is so because the clusters contain schools that are more similar to each other, within a given cluster, than schools in a simple random sample spread out across the entire country. The clustering is taken into account in the standard errors of the estimates, and thus in the (greater) width of the confidence intervals. The statistic characterizing the ratio of actual to effective sample size is known as the "design effect"; it is the ratio of the standard error under the actual clustered sample to the one expected under a hypothetical simple random sample of the same size. The design effects vary from variable to variable; they are influenced also by the weight adjustments in replacement units.

The design effects are of interest to planners of facility surveys, particularly of school surveys of a similar kind and in settings with similar accessibility challenges that need to rely on cluster sampling. Approximate magnitudes of the design effects to expect are helpful to know in planning the sample size should a particular level of precision be desired.

Little is known about what design effects typically to expect in facility surveys. Design effects in a health facilities cluster survey in Benin were found to vary widely with the different variables of interest (Rowe, Lama et al. 2002); the median effect (probably the DEFT) for 46 quality of care variables was 1.4, with a range all the way from 0.8 to 5.7. Turner et al.

(2001:41), in a well-known manual on health sector facility surveys in developing countries, recommend a design effect no higher than 1.2.

In the school survey area, Nzomo et al. investigated the quality of primary education in Kenya (Nzomo, Kariuki et al. 2001). Although they list design effects for four school-level variables, the calculation is based on a student-level dataset (theirs is a combined facility-teacherstudent survey). To make them comparable to those revealed by our tests, one might divide their (incorrectly calculated) school level effects by the pupil-level effects. The resulting corrected school level design effect, on average, is about 2.3.

This makes the experience of this assessment with regards to the design effect found in school survey variables all the more valuable. This table gives same examples:

Variable and population estimate	Design effect (DEFT)	Effective sample size: Actual number of observations / design effect (rounded down)
School in operation: Proportion functional: 75 percent	1.73	393 / 1.73 = 226
School context: Security – Proportion schools in stable security: 25.4 percent	3.69	393 /3.69 = 106
Student enrollment: Mean number of students per school in January 2016 (excluding non- functional schools): 503.5	1.13	299 / 1.13 = 264
Teachers present on day of survey (functioning schools): Mean number present: 8.12	1.51	299 / 1.51 = 198
Female teachers: Mean number present: 1.38	1.88	299 / 1.88 = 159
Male teachers: Mean number present: 6.75	1.15	299 / 1.15 = 260
Government schools: Months teachers paid salaries Jan – Oct 2016: Mean months paid: 7.49	1.82	301 / 1.82 = 165

The median of the design effects in these seven variables is 1.73, the range is 1.13 to 3.69. The example of teachers present is instructive: the design effects between the sexes and hence the effective sample sizes differ considerably, presumably because schools with zero female teachers predominate in certain areas, and less so in others.

The recommendation that we derive from these – admittedly incomplete – examples is that planners should base cluster sample size calculations for similar surveys on a conservative design effect of 2. The value of 1.2 recommended by Turner et al. (op. cit.) appears too low for facility surveys in areas with turbulent security history. This finding is a valuable methodological contribution by this assessment in South Sudan and deserves to be shared widely.

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ANNEX B: County level questionnaire

A. Characteristics of the area

- 1. Name of state:
- 2. Name of county:
- 3. Name of enumerator:

4. Levels of violence since the start of 2016

- □ Frequent active conflict (most of the time there has been fighting between armed groups)
- Frequent communal violence (most of the time there has been fighting between communities)
- □ Sporadic active conflict (there has been active conflict, but most of the time it was stable)
- Sporadic communal violence (there has been violence, but most of the time it was stable)
- □ Stable (it was stable all of the time)

5. Current population compared to the start of 2016

- The population has increased because people from other counties have moved into county
- The population has decreased because people from this county have moved to other counties
- ☐ The population has remained stable

B. Education system

				Source	
1. How many primary schools are currently	ols				
 How many primary schools have <u>closed</u> in 2016 and why? 					
Numbe	r		Numbe	÷r	
Looted by armed group/forces	Students fled				
Looted by civilians	Teachers have no	t been paid			
Occupied by armed groups	Do not know	<u> </u>			
Occupied by IDPs	Other (Please Spe	ecify)			
Insecurity in or on the way to school	_				
Teachers fled	TOTAL SCHOOL	S CLOSED			
	Boys	Girls	Total	Source Information	
3. Number of children <u>enrolled</u> in functional primary schools at start 2013					

- 4. Number of children <u>enrolled</u> in functional primary schools <u>at start 2016</u>
- 5. Number of children <u>attending</u> in functional schools <u>currently</u>

6. What are top 3 education interventions required to support education in this county?

	Rank		Rank
School grants		Security for schools	
Cash transfers for pupils		Training for teachers	
Teaching and learning supplies		Other (Please specify)	
Teacher salaries			
School feeding			
Rehabilitation of infrastructure			

ANNEX C: School level questionnaire

Education Cluster Assessment SCHOOL LEVEL SURVEY

Status of questionnaire:

- □ Data collection not finalised (explain why)_____
- □ Data collection finalised
- □ Questionnaire reviewed by field focal point
- Questionnaire data entered

1.	Is this school part of the original sample?	Yes	□ No		
2.	If no, why not?				
3.	How was the replacement school selected?	 Randomly picked from the 'List of Schools' Purposively selected because the new school close to original school Other (Please Specify) 			

A. SCHOOL AND INTERVIEW BACKGROUND

Fill in before or after the interview with the key informant:

1.	Date assessment	Day	 _Month Year
2.	Name Enumerator(s)		
3.	Position Enumerator (s)		
4.	Phone Number Enumerator (s)		
5.	School Name		
6.	EMIS School Code		
7.	Payam		
8.	County		
9.	Stat		
10.	Ownership school	Government Religious group Private individual/group	Community (International) NGO Do not know
11.	School Infrastructure	Permanent Semi- Permanent/Temporary Learning Space (TLS) Roof only	Tent Open Air/Under Tree Other (Please Specify)
Β.	KEY INFORMANT DETAILS		
Asl	k the kev informant:		
1.	Position Key Informant	Head Master Teacher Other Education Personnel	Head of PTA Other (Please Specify)
2.	Name Key Informant		
3.	Gender Key informant	Male	Female
4.	Phone number Key Informant		
5.	Language of interview	English Arabic	Other, Please specify

- 1. During the <u>rainy season</u>, how can the school be accessed?
 - Select only one
 - \Box Only by foot
 - □ By foot and motorbike
 - \Box By foot, motorbike and car
- 2. And during the <u>dry season</u>, how can the school be accessed?
 - Select only one
 - Only by foot
 - □ By foot and motorbike
 - $\hfill\square$ By foot, motorbike and car
- 3. During the dry season, how many hours <u>walking</u> is this school from the nearest county capital?

Do not leave field empty, write 0 if no hours, 999 if you do not know _____ Hours

4. Is the school <u>functioning</u>?

Select only one

- □ Yes, the school is functioning → MOVE TO SECTION D SCHOOL FUNCTIONING
- Not functioning

5. What is the main reason the school is not functioning?

Do not read options out loud! Select only one

(Perceived) insecurity in or around school
 Teachers fled
 Students fled
 Students fled
 Teachers have not been paid
 School is occupied by IDPs
 School was looted by civilians
 Do Not Know
 Other (Please specify)

6. When did the school most recently stop functioning?

Do not leave field empty, write 999 if you do not know _____Day ____Month_____Year

7. How many children were enrolled at the start of the year in 2016

Do not leave field empty, write 999 if you do not know or if school was already closed at the start of 2016

____Boys _____Girls_____ Total

8. What would be the <u>top 3 most effective activities</u> to support the re-opening of this school?

Do not read options out loud! Rank response according to most important issue (write number 1), second most important issue (write number 2), and third most important issue (write number 3)

Rank

School grants
Cash transfers for pupils
Teaching and learning supplies
Teacher salaries
School feeding
Rehabilitation of infrastructure
Security for schools
Training for teachers
Other (Please specify)

END QUESTIONNAIRE FOR NON-FUNCTIONAL SCHOOL

D. SCHOOL FUNCTIONING

1.	When did the school start functioning in this location?	
	Do not leave field empty, write 999 if you do not know	MonthYear
2.	How many <u>shifts</u> does this school have?	

Select only one. In case of a multiple shift school, ask specifically if there is an ALP shift.

- One shift: Morning primary shift
- □ Multiple shifts: Morning and afternoon primary shift
- □ Multiple shifts: Morning primary and afternoon ALP shift
- **3.** When was the <u>first day of class</u> in 2016? _____Day _____Month Do not leave field empty, write 999 if you do not know
- 4. How many <u>weeks</u> of education were <u>lost in 2016</u> and why? (do not count school holidays) Fill in the number of weeks by reason

Reason	Number of weeks lost
(Perceived) insecurity in or on the way to school	
Teachers fled	
Students fled	
Teachers had not been paid	
School was looted by civilians	
School was looted by armed group/forces	
School was occupied by armed groups	
School was occupied by IDPs	
Other (Please specify)	

TOTAL NUMBER OF WEEKS LOST

5. How many <u>weeks</u> of education were <u>lost in 2015</u> and why? (do not count school holidays) Fill in the number of weeks by reason

Reason	Number of weeks lost
(Perceived) insecurity in or on the way to school	
Teachers fled	
Students fled	
Teachers had not been paid	
School was looted by civilians	
School was looted by armed group/forces	
School was occupied by armed groups	
School was occupied by IDPs	
Other (Please specify)	

TOTAL NUMBER OF WEEKS LOST

6. I will read out loud a number of attacks. Has the school faced any of the following <u>attacks</u> since the start of the conflict in December 2013?

Read each type of attack out loud, add how many times since December 2013 and the date of last attack.

Type of attack	How often since Dec 2013?	Date of last attack
1. Hit by bullets	□ Never	
	One time	MonthYear
	Multiple times	
2. Attacks by planes or helicopters	□ Never	
	One time	MonthYear
	Multiple times	
3. Burning	□ Never	
	One time	MonthYear
	Multiple times	
4. Theft/Looting	Never	
	One time	MonthYear
	Multiple times	
5. Occupation of classrooms by	Never	
armed forces/groups	One time	MonthYear
	Multiple times	
6. Use of school for military	Never	
recruitment	One time	MonthYear
	Multiple times	
7. Direct attacks (physical or	Never	
verbal) on education staff or	One time	MonthYear
students while carrying out education activities	Multiple times	

E. ENROLMENT AND ATTENDANCE

1. How many children were enrolled at the start of each year between 2013 and 2016

Do not leave field empty, write 0 if no individuals fit in the category, write 999 if you do not know.

	2016			2015			2014			2013	3	
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Total number of children	200	150	350									
What is the source of this information? Select only one for each year	Socient Socie	chool gister stimate ovided ead tead ther: Pla becify	t by cher ease	Societ S	chool gister stimate ovided ead tead ther: Plo becify	t by cher ease	E P D D C S	chool nrolmen egister stimate rovided ead tead ther: Pla pecify	t by cher ease		School enrolmer register Estimate provided nead tea Other: Pl specify	by cher ease

2. How many children have dropped out since the start of the year?

Do not leave field empty, write 0 if no individuals fit in the category, write 999 if you do not know.

____Girls____Boys ____ Total

3. What have been the top 3 reasons <u>boys</u> have dropped out of school since the start of the school year? And <u>girls</u>?

Do not read options out loud! Rank response according to most important issue (write number 1), second most important issue (write number 2), and third most important issue (write number 3)

Rank		
Boys	Girls	
		Couldn't pay fees
		Lack of food
		Long distance to school
		Planting/harvest
		Looked for or found a job/work
		Prolonged illness
		Displaced by conflict
		(Perceived) Insecurity on the way to school or in the area
		Joined the military
		Marriage
		Pregnancy
		In prison
		Language issue
		Course didn't meet the needs
		Other (Please Specify)

4. How many children are <u>attending</u> school at the time of the assessment (for all shifts)?

Look at attendance register or count the children in the classrooms. For multiple shift schools: look at yesterday's attendance register to see the number of children. Do not leave field empty, write 0 if no individuals fit in the category, write 999 if you do not know.

	Boys	Girls	Total	
1 st Shift				
2 nd Shift				
(if relevant)				
Source of	Count of children by			
information:	asse	ssment tea	am	
Select only	Atter	ndance reg	jister	
one	Head teacher estimate			
	Othe	r (Please	Specify)	

5. How many <u>IDP and refugee</u> children are estimated to be <u>attending</u> school at the time of the assessment (for all shifts)? Write 0 if no individuals fit in the category, write 999 if you do not know.

	Boys	Girls	Total
Total IDPs			
Total refugees			
Source of information:	 Head teacher estimate Other (Please Specify) 		
Select only one		(

6. I have an additional question about attendance. Which part of the <u>children enrolled come</u> <u>to school almost every day</u>?

You can read the options out loud, only select one.

- □ No children 0%
- □ Almost no children 0 to 25%
- □ Less than half 25 to 50%
- □ More than half 50 to 75%
- □ Almost all 75 to 100%
- □ All children 100%

7. What are the top 3 reasons boys are not attending school every day? And girls?

Do not read options out loud! Rank response according to most important issue (write number 1), second most important issue (write number 2), and third most important issue (write number 3)

Rank		
Boys	Girls	
		Lack of food
		Long distance to school
		Planting/harvest
		Looked for or found a job/work
		Illness
		(Perceived) Insecurity in or on the way to school
		Insufficient teaching and learning supplies
		Not enough teachers teaching
		Other (Please Specify)

F. TEACHER PRESENCE

1.	How many teachers were <u>present at the start of the school year</u> by sex?			
	Do not leave field empty, write 0 if no individuals fit in the category, write 999 if you do not know.			
	Male Fema	aleTotal		
2.	How many teachers were present at the start of the school year by	y type?		
	Do not leave field empty, write 0 if no individuals fit in the category, write	ite 999 if you do not l	know.	
	Government	Teachers	;	
	Community	Teachers	;	
	Volunteer	Teachers	5	
	Total	Teachers	5	

3. What about the teachers who are <u>present today</u>, could you provide details on each teacher?

Look at attendance register and count number of teachers present. For each teacher, write down gender, type and highest academic qualification. Only select one of the options provided. For multiple shift schools: look at yesterday's attendance register to see the number of teachers. Do not leave field empty, write 999 if you do not know.

#	Name Teacher	Gender	Туре	Highest Academic Qualification
	Name of teacher	MaleFemale	 Government Community Volunteer 	 University/Teachers Training College or Teacher Training University Only Secondary school Only Primary school No Education completed Do not know
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

4. What is the top 3 reasons why teachers who were present <u>at the start of the year</u>, <u>are absent today</u>?

Do not read options out loud! Rank response according to most important issue (write number 1), second most important issue (write number 2), and third most important issue (write number 3)

Rank	
	No or delayed payment of salaries
	Prolonged illness
	Displaced by conflict
	Attack/occupation of school
	Insecurity in the area
	Joined the military
	Joined NGO as staff
	Found other work
	Out to following teacher training
	Other (Please specify)

5. How many months in 2016 have <u>Government</u> teachers in this school received their salary?

Do not leave field empty, write 999 if you do not know or if the question is not relevant

Months

6. How many months in 2016 have <u>Community</u> teachers in this school received their stipend?

Do not leave field empty, write 999 if you do not know or if the question is not relevant

Months

G. GOVERANCE AND SUPPORT

- 1. What kind of support from an external partner has this school received during this school year? Read options out loud. Select all that apply.
 - Not supported
 - □ School grants
 - \Box Cash grants for pupils
 - □ Teaching and learning supplies
 - □ Teacher salaries and incentives
 - □ School feeding
 - □ Rehabilitation of infrastructure
 - □ Training (for teachers, PTA, SMC etc.)
 - \Box Other (Please specify):

2. Which actor(s) provided this support? Select all that apply.

- Not supported
- Community
- □ GESS
- □ NGO/UNICEF/UNHCR
- World Food Program (WFP) or NGO supported by WFP
- □ Church
- □ Room to Learn (RTL)
- Do not know
- □ Other (Please specify):
- 3. Since the start of the school year, how often has the School Management Committee met?

Do not leave field empty, write 0 if the SMC never met, write 999 if you do not know

_____ Times

- 4. Since the start of the school year, how often has the Parent Teacher Association met? Do not leave field empty, write 0 if the PTA never met, write 999 if you do not know _____ Times
- 5. Since the start of the school year, how many visits from education authorities (Education Authorities or Supervisor) have there been?

Visits

Do not leave field empty, write 0 if there have been no visits, 999 if you do not know

H.SUGGESTIONS

1. What would be the top 3 education activities to support the children in your school?

Do not read options out loud! Rank response according to most important issue (write number 1), second most important issue (write number 2), and third most important issue (write number 3)

Rank

 School grants
Cash transfers for pupils
Teaching and learning supplies
Teacher salaries
School feeding
Rehabilitation of infrastructure
Security for schools
Training for teachers
Other (Please specify)



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