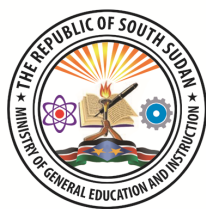


South Sudan Education Sector Analysis, 2016: Planning for Resilience



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Foreword

South Sudan's commitment to a stronger education system is reflected in its ambitious new five-year plan to improve service delivery nationwide. Embracing this challenge, the Ministry of General Education and Instruction (MoGEI) has developed a detailed plan which incorporates a transitional period, thereby allowing the state to rise above years of conflict and ensure its robust quality education system becomes a pillar of long-term peace, stability, and development.

Education stakeholders in the global development and humanitarian community increasingly recognize the need to integrate conflict and disaster risk reduction into both analysis and planning. The renewed conflict in South Sudan which broke out in December 2013 exacerbated public policy challenges and further underlined the importance of crisis-sensitive planning – including risk analyses – for the development of an educational system sufficiently resilient to withstand future disruptions. Only by planning for unforeseen conflicts and natural disasters, and by integrating disaster risk reduction, can the South Sudanese education system remain functional in the face of shocks.

In this context, South Sudan embarked in September 2015 on its second Education Sector Analysis (ESA).¹ Representing much more than a simple update, the 2015 ESA is the first of its kind to incorporate crisis-sensitive analyses. Multiple education sector analyses, each of which constitutes a chapter of the report (i.e. on the global context, school enrolment and internal efficiency, cost and financing, as well as management and quality), were carried out using a crisis-sensitive lens. Equity analyses were also mainstreamed with a specific focus on gender and the regional state level, reflecting the decentralized nature of the education sector. These permit a better understanding of the challenges faced by the education sector, as well as its weaknesses and strengths.

The development and drafting of the ESA analysis took place between September 2015 and April 2016. This especially challenging period was marked by a rapid deterioration in the macroeconomic and humanitarian situations, the dissolution of the 10 regional states and the creation of 28 new ones, and the formation of the new Transitional Government of National Unity (TGNU). As a consequence, the Ministry of Education, Science and Technology (MoEST) was split into the MoGEI and the Ministry of Higher Education and Science and Technology (MoHEST). While some of these developments are addressed in the ESA, the state analysis presented in the report refers to the 10 former states (the 28 states not having been formally recognized at the time) and to a single Ministry of Education. Nevertheless, the ESA offers a comprehensive picture of the education system in 2015, the last year for which most statistics were available at the time of the analysis, as well as an analysis of changes in the system over the time.

Work on the ESA was coordinated and led by the Department of Planning and Budget of the MoGEI, with the technical and administrative support of UNESCO, notably through its International Institute for Educational Planning (IIEP-UNESCO). Financial support was generously provided by the Global Partnership for Education (GPE), UNICEF's Eastern and Southern Africa Office (ESARO), GIZ, the UNESCO Office in Juba, and IIEP. The document was developed by a national team composed of representatives of various ministries at central and state levels, donors and civil society, and of both development and humanitarian groups.

Having the government, development partners, and humanitarian actors on board from the start of the process proved very beneficial. It facilitated data and information collection and analysis, allowing the team to adequately portray risks. It also offered a platform for the exchange of information and experiences between stakeholders who otherwise might not have had opportunities to work together. In addition, it eased the integration of crisis-sensitive activities into the General Education Strategic Plan (GESP) currently under development. This should facilitate and strengthen both coordination mechanisms and the implementation of crisis and risk reduction policies and activities by MoGEI and its humanitarian and development partners.

The results of the ESA, taken together with the costing of certain education policy options derived from the simulation model which was developed in parallel, are now providing policy-makers with robust evidence to make informed education policy choices, as well as new data for the GESP 2017–2021. In addition to providing policy orientations for the next five years, the crisis-sensitive GESP will also help to mobilize needed resources, both domestic and external, from both development and humanitarian funders.

The 2015 ESA relied on data and information from multiple sources, notably the series of improved school administrative surveys undertaken by MoGEI, and the relative severity of need index produced by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). However, South Sudan still lacks reliable basic economic and social statistics, reflecting a legacy of decades of civil war and the challenges associated with state and institution building.

Among the achievements highlighted by the ESA are examples of progress in non-conflict-affected areas, which have seen significant increases in enrolment coverage over the 2009–2015 period. Progress has also been observed following the implementation of cash transfers to help girls attend school and in the functioning of schools under

1. The first ESA was undertaken in 2010.

the school cash grant programme. Efforts to revitalize the teacher training, inspection, and supervision system are also underway. In addition, the country has recently adopted a revised curriculum that addresses issues of safety, resilience, and social cohesion. This will help build understanding among future generations of the meaning of good citizenship. Furthermore, the peacebuilding aspects of this curriculum incorporate components such as life skills and peace education, which are much in demand among the public of South Sudan.

However, many challenges remain and are compounded by the lingering conflict. These include a severely underfunded sector resulting from a meagre public education budget. This negatively affects (among other things) facility development and teacher remuneration, inadequate numbers of qualified teachers alongside other human resource limitations, inadequate physical facilities and infrastructure of schools, and inadequate learning and teaching environments leading to poor mastery of basic literacy and numeracy. A large number of children do not attend school due to lack of access, with high dropout rates before the end of the primary cycle. The situation is especially difficult for girls and is particularly critical in conflict-affected areas, which have experienced massive population displacement and damage to schools. Many school buildings have been occupied by internally displaced people and in some instances by the army. The ongoing conflict is thus negatively affecting schooling, and the recent and rapid deterioration in the macroeconomic and social situation is jeopardizing existing government, community and development partner investments in the education sector, representing a major threat to the future development of the country.

On a more positive note, the formation of the Transitional Government of National Unity in April 2016 is particularly encouraging, and holds out hope for the development of a nationally led peace process – a prerequisite for developing and implementing sound education policies and facilitating the mobilization of resources. Following the outbreak of violence in late 2013, humanitarian funding increased, with a concomitant shift away from development assistance. The current situation suggests that the humanitarian crisis will continue to demand increased resources. However, it is important to remain vigilant that this trend does not undermine future investments in development areas. Working to ensure that development and humanitarian actors act in a manner that reinforces complementary, coherent sustainable development solutions will prove decisive in bridging the humanitarian–development divide. We hope that by fully integrating crisis-sensitive issues, this ESA – and its companion, the GESP 2017–2021 – will contribute to such an agenda and help to reduce the effects of crises and both human-made and natural disasters on education in the country.

This ESA offers valuable and comprehensive resources to anyone interested in understanding the status of the education sector in South Sudan. It should be noted that it represents a snapshot of a system that is continuously evolving. Given the volatile political, security, humanitarian, and economic situation prevailing in South Sudan, some of the findings of this report may become outdated, but many features will remain valid. It is the hope of both MOGEI and its development and humanitarian partners that this document will be of use to all stakeholders in the education sector.

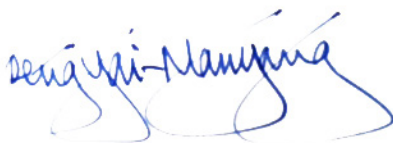
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Abbreviations

AES	alternative education system
ALP	Accelerated Learning Programme
BALP	Basic Adult Literacy Programme
BOG	boards of governors
CAR	Central African Republic
CDF	County Development Funds
CEC	county education centre
CEQ	Central Equatoria State
CGS	community-based girls schools
CiPELT	Certificate in Primary English Language Teaching
CPA	Comprehensive Peace Agreement
CPD	continuing professional development
DFID	Department for International Development
DP	development partners
DRC	Democratic Republic of the Congo
DPE	Department of Primary Examination
ECDE	early childhood development and education
EEQ	Eastern Equatoria State
EFA	Education for All
EiE	education in emergencies
EMIS	education management information system
ESA	education sector analysis
ESARO	UNICEF Eastern and Southern Africa Regional Office
ESP	education sector plan
EU	European Union
FAO	Food and Agricultural Organization
FTI	Fast Track Initiative
FTS	Financial Tracking Service (OCHA)
GAM	global acute malnutrition
GCPEA	Global Coalition to Protect Education from Attack
GDP	gross domestic product
GDP pc	GDP per capita
GER	gross enrolment rate
GESP	General Education Strategic Plan
GESS	Girls' Education South Sudan
GIR	gross intake rate
GoSS	Government of South Sudan
GPE	Global Partnership for Education
GPI	gender parity index
GUPN	Greater Upper Nile (states)
HDI	Human Development Index
HEI	higher education institution
HFS	high frequency survey
HLI	higher learning institution
IDP	internally displaced person

IEC	Intensive English Course
IEC	internal efficiency coefficient
IMF	International Monetary Fund
JON	Jonglei State
LAK	Lakes State
LRA	Lord Resistance Army
MICS	Multiple Indicator Cluster Survey
MoCYS	Ministry of Culture, Youth, and Sport
MoEST	Ministry of Education, Science, and Technology
MoFEP	Ministry of Finance and Economic Planning
MoGEI	Ministry of General Education and Instruction
MoH	Ministry of Health
MoHEST	Ministry of Higher Education and Science and Technology
MoLPS	Ministry of Labour and Public Service
MPI	Multi-Dimensional Poverty Index
MRM	Monitoring and Reporting Mechanism
MRY	most recent year
NBG	Northern Bahr el Ghazal State
NBHHS	National Baseline Household Survey
NBS	National Bureau of Statistics
NGO	non-government organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OHCHR	Office of the United Nations High Commissioner for Human Rights
PCR	primary completion rate
PEG	Partners for Education Group
PEP	Pastoralist Education Programme
PLE	Primary Leaving Examination
PSLC	Primary School Leaving Certificate
PoC	protection of civilians
PTA	parent–teacher association
PTR	pupil/teacher ratio
R²/R-Square	Coefficient of Determination in Statistical Analysis
RSS	Republic of South Sudan
SBRT	School Budgets Reporting tool
SCE	School Certificate Exam
SDG	Sudanese Pound
SDP	school development plan
SMoEST	State Ministry of Education, Science, and Technology
SPLM/A	Sudan People’s Liberation Movement/Army
SPLM/A-IO	Sudan People’s Liberation Movement/Army – In Opposition
SPLA-IO	Sudan People’s Liberation Army in Opposition
SRP	Strategic Response Plan
SSA	sub-Saharan Africa
SSAMS	South Sudan Attendance Monitoring System
SSCCSE	Southern Sudan Centre for Census, Statistics, and Evaluation
SSCSE	South Sudan Certificate for Secondary Education
SSEPS	South Sudan Electronic Payroll System

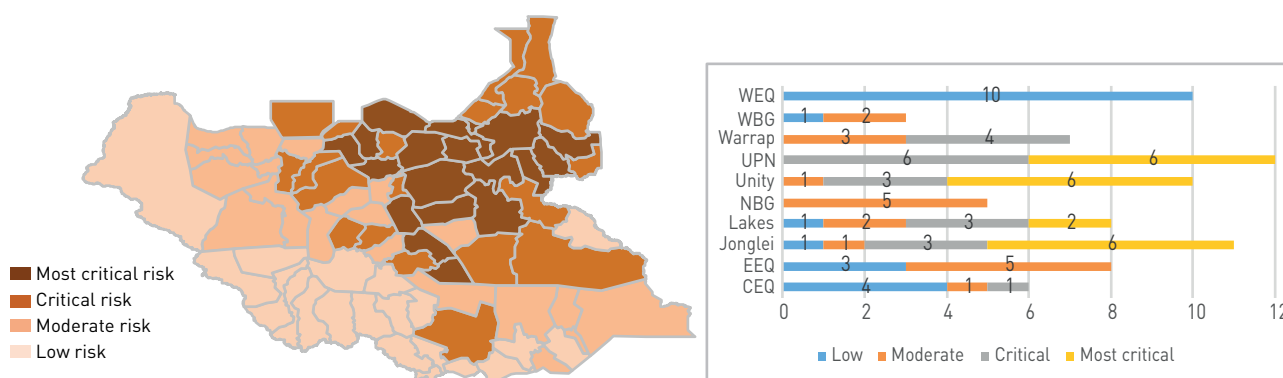
SSHHS	South Sudan Household Health Survey
SSP	South Sudanese Pound
TGNU	Transitional Government of National Unity
TTI	teacher training institute
TVET	technical and vocational education and training
UC	unit cost
UIS	UNESCO Institute for Statistics
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction
UNMISS	United Nations Mission in South Sudan
UNPD	United Nations Population Division
UNY	Unity State
UPC	universal primary completion
UPE	universal primary education
UPN	Upper Nile State
USAID	United States Agency for International Development
WAR	Warrap State
WB	World Bank
WBG	Western Bahr el Ghazal State
WEQ	Western Equatoria State
WHO	World Health Organization

Executive summary

The education system in South Sudan is currently emerging from decades of conflict, and is striving to meet its needs in a context of political, humanitarian, and economic crisis.

The Republic of South Sudan gained independence in July 2011 following secession from Sudan through a referendum held in January the same year. The world's newest nation was left with a legacy of more than 50 years of conflict and continued instability, along with huge development needs including those facing the education sector. Renewed conflict broke out in Juba in December 2013 and later engulfed the Greater Upper Nile States,² resulting in the deterioration of development gains achieved since independence and a worsening humanitarian situation. Late April 2016 saw the formation of the Transitional Government of National Unity (TGNU), and at the time of writing, conflict persists in some areas of the country.

Figure ES1. County level of risk (left) and number of districts by level of risk, by state (right), early 2015



Sources: OCHA county risk indexes databases; authors' calculations.

The intensification of hostilities since the outbreak of the conflict in late 2013 has resulted in many deaths and casualties, as well as reported human rights violations and massive population displacement. As of November 2015, over 2.3 million people had been displaced, 1.7 million of whom were the victims of internal displacement (and of whom 53% are children), while 645,000 fled to neighbouring countries. This population displacement has severely disrupted the organization of education services in conflict-affected communities and host communities. Moreover, with the formation of the TGNU and the expected peace, a high number of returnees will likely need to be accommodated in the school system in the coming years.

Other forms of conflict including those non-political in nature have also intensified. These include cattle raiding, revenge killings, pastoralist conflict over resources, and inter-ethnic tensions. Such non-political conflicts have persisted in the region for decades and are subject to flare-ups resulting from population movements and increased pressure placed on already limited resources.

Food insecurity and epidemics also present challenges to the education system. As of September 2015, 3.9 million people (one-third of the population) were estimated to be severely food insecure as a result of severe episodes of drought and disruption to the agricultural sector. Children were particularly affected, with nearly 686,300 or 29% of those aged under 5 suffering from acute malnourishment. This trend is particularly worrisome given the importance of proper food intake, both in terms of quality and quantity, for proper child physical and cognitive development.

Social indicators remain low nationally and are not favourable for high education demand. Poverty and illiteracy, which are associated with lower demand for schooling, are also widespread in South Sudan: 51% of the country's population live below the poverty line, and only 27% of South Sudanese above the age of 15 are literate, representing one of the lowest rates in the world. Health status is also poor with high prevalence of malaria, outbreaks of cholera, and seasonal episodes of meningitis, dysentery, and typhoid fever. Meanwhile, 31% of South Sudanese lack access to safe drinking water supplies and only an estimated 15% have access to improved pit latrines or toilet facilities. HIV/AIDS has had a moderate impact with 2.5% of South Sudanese adults aged 15 to 49 years infected in 2015, resulting in an estimated number of 875 infected teachers. Early marriages and pregnancies are common. In 2010, 40% of women aged 15–19 years were married or in a union and one-third (31%) of women aged 15–19 had begun child-bearing. The latter negatively affects girls' schooling, as the majority of young mothers do not return to school.

2. Consisting of Jonglei, Unity, and Upper Nile.

The South Sudanese economy has experienced severe and rapid deterioration, jeopardizing past investments and progress, including in education.

The economy was badly hit by the renewal of hostilities in late 2013 and the cessation of oil production in 2012 caused by a transit fee dispute with Sudan, especially given South Sudan's economic dependency on oil. In addition to the conflict, which disrupted and partly destroyed both oil and agricultural production and increased the government deficit, the global price of oil fell substantially, leading to a major plunge in domestic revenues and foreign exchanges, and resulting in strong depreciation of the South Sudanese Pound (SSP) and inflation. This was reflected in a quick downturn in major macroeconomic indicators with gross domestic product (GDP) estimated to have dropped by about 7% in fiscal year (FY) 2015/16. The situation has undermined economic stability and is ultimately harming the South Sudanese, who have experienced a rapid deterioration in purchasing power and standard of living, with many living on the verge of subsistence and requiring human assistance to survive. In 2015, the GDP per capita was estimated at \$266 using the unofficial rate (or \$1,257 at the official rate) against \$2,126 in 2011 (both in 2014 prices).

South Sudan's economy remains fragile, while persistent, strong domestic structural weaknesses (in governance, service delivery, and physical and economic infrastructure) and the lingering conflict constitute major impediments to economic growth. The outlook for the future largely depends on a recovery in global oil prices and a comprehensive resolution to the civil conflict.

The country relied heavily on development and humanitarian aid to support national efforts, accounting for half of total resources available in the country. Following the outbreak of renewed violence in late 2013, humanitarian funding increased, shifting away from development aid towards humanitarian response. The current situation suggests that the humanitarian crisis will continue to demand increased resources. However, it is important to remain vigilant that this does not undermine future investments in development areas. Efforts to ensure that development and humanitarian actors act in a manner that reinforces complementary, coherent sustainable development solutions will prove decisive in bridging the humanitarian–development divide.

Education is not prioritized in government spending or humanitarian aid. Following the outbreak of conflict in 2013, security expenditure increased from 33% to 47% over 2009–2014/15 to the detriment of resources for basic service delivery and capital spending on much needed infrastructure. Since independence, the share of education spending has remained stable at around 5% of total expenditure, far from the national benchmark of 15% and the international benchmark of 20% (and the latter figure concerns only recurrent expenditures). Education receives only 3% of all humanitarian funding, below the international benchmark of 4%.

Table ES1. Government education expenditure, outturns, 2009–2014/15 (SSP million and %)

	2009	2011/2012	2012/2013	2013/2014	2014/2015
Total education expenditure					
Current prices (SSP million)	234.1	448.5	366.8	396.1	543.5
Constant prices (SSP million 2014 prices)	480.7	475.3	373.9	396.1	519.7
Share of GDP (%)	0.8%	1.1%	1.1%	1.0%	1.3%
Share of total public expenditure (%)	5.5%	4.4%	5.4%	4.4%	4.6%
Recurrent expenditure					
Current prices (SSP million)	227.9	433.5	356.1	380.5	542.8
Constant prices (SSP million 2014 prices)	468.1	459.4	363.0	380.5	519.0
Share in total recurrent expenditures (%)	7.1%	5.2%	5.7%	5.0%	4.8%
Capital expenditures (SSP million)					
Current prices (SSP million)	6.2	14.9	10.7	15.6	0.7
Constant prices (SSP million 2014 prices)	12.7	15.8	10.9	15.6	0.7
Share in total capital expenditures (%)	0.6%	0.8%	1.8%	1.0%	0.1%

Sources: MoFEP 2011–2015; 2016a.

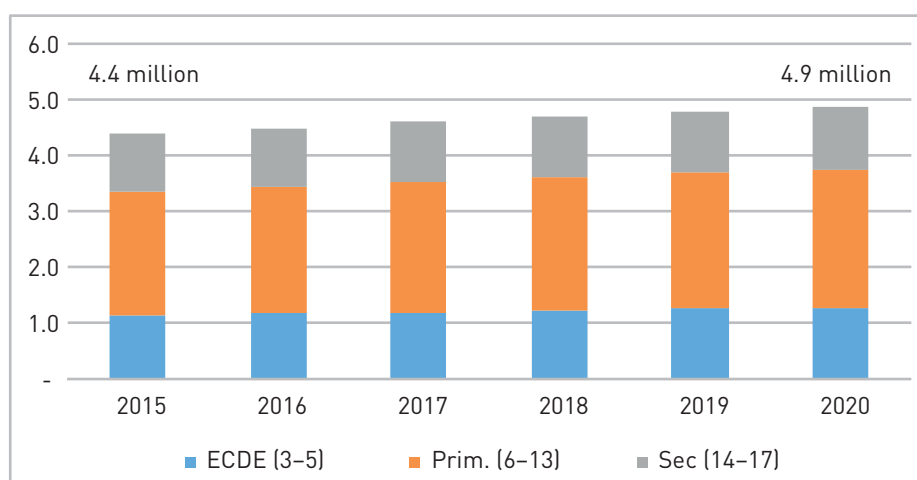
Note: Based on outturns and expenditures going through the ministries of education only. These figures do not include state education spending from state block grants, as it was not possible to estimate these amounts for the period.

Present low levels of education resources and the recent and rapid deterioration of the macroeconomic and social situation jeopardize investments in the education sector and represent a major threat to future development of the sector. The situation calls for the urgent mobilization of additional resources from both domestic and international sources.

The education system is facing additional pressure from the high rate of population growth.

In 2015, the population amounted to an estimated 11 million people and is projected to surpass 12.6 million in 2020 at an average growth rate of 2.7% (using UN Population Division [UNPD] growth rates). The school-aged population (3–17 years old) is set to grow by half a million over the next five years to reach an estimated 4.9 million in 2020. As the number of school-aged children increases, the education system will need to increase its capacity significantly. Meanwhile, the country has a low population density with an estimated 17 inhabitants per square kilometre in 2015 and an urbanization rate of 19%. This entails further challenges for the organization of education supply, particularly in low density areas.

Figure ES2. School-aged children population projections, 2015–2020



Sources: 2015 National Bureau of Statistics (NBS) smoothed population projection estimates; UN growth rate estimates (UNPD, 2015).
Authors' calculations.

Note: ECDE = early childhood development and education.

Progress in coverage is being affected by the conflict, jeopardizing the human capital development of generations of children.

Schooling indicators deteriorated significantly in Greater Upper Nile (GUPN) states over 2009–2015, but progressed in non-GUPN states, affecting overall coverage levels. The gross enrolment rate (GER) for primary, including accelerated learning programmes (ALP) and community-based girls schools (CGS), decreased from 81% to 62%, and halved in alternative education systems (AES) to reach 1,282 learners per 100,000 inhabitants in 2015. A massive drop in higher education coverage can also be registered; however, coverage for secondary education and technical and vocational education and training (TVET) remained approximately the same, changing from 6% to 6.5% and from 44 to 43 learners per 100,000 inhabitants over the period. Stability in secondary enrolment coverage is most likely related to the higher prevalence of secondary schools and TVET centres in urban areas, which are less prone to conflict and related risks.

Availability of AES and TVET is limited vis-à-vis the massive schooling needs of out-of-school children. While AES and especially ALP and CGS programmes contribute positively to universal primary education, provision does not cover all states or counties. Enrolment is insufficient with only 111,000 students out of an estimated 2 million out-of-school children and youth enrolled in 2015. Provision of TVET is also limited with only 4,722 students enrolled in 2015, while the present curriculum is not tailored to local needs.

Table ES2. Schooling coverage indicators, by sub-sector, 2009 and 2015

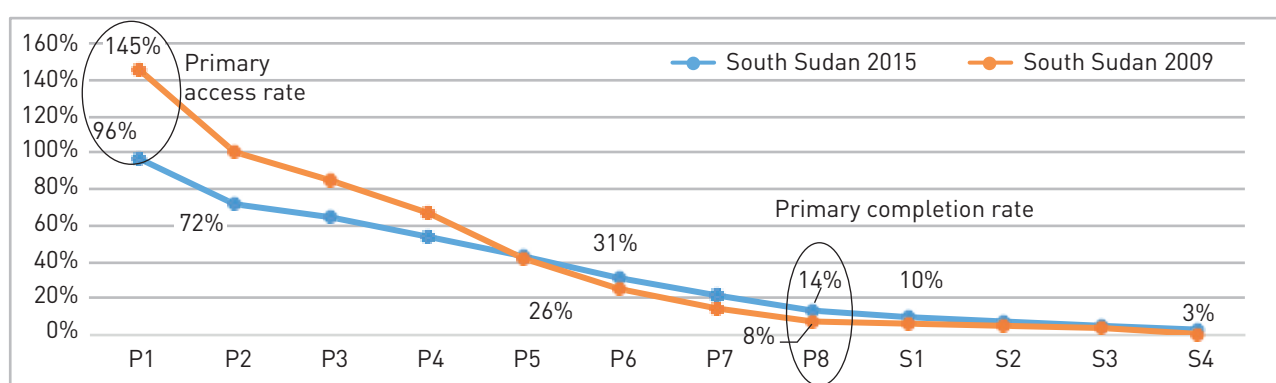
	2009	2015	Growth rate 2009-2015
National with GUPN			
GER ECDE	N/A	9.7%	-
GER primary (eight-year cycle)	71.6%	56.5%	-21.1%
GER primary (including ALP, CGS, and PEP*)	81.0%	62.3%	-23.2%
GER secondary (including secondary technical schools)	5.9%	6.5%	10.7%
AES per 100 000 inhabitants	2 501	1 282	-48.7%
TVET as % of secondary education	9.0%	7.3%	-19.0%
TVET per 100 000 inhabitants	44	43	-3.8%
Higher education per 100 000 inhabitants	276	101	-63.4%
National without GUPN			
GER primary (eight-year cycle)	63.9%	72.4%	13.4%
GER primary (including ALP, CGS, and PEP)	72.5%	79.4%	9.5%
GER secondary (including secondary technical schools.)	7.0%	9.3%	32.0%

Source: MoEST, 2008–2015. Authors' computations.

Note: *Pastoralist Education Programme.

Universal primary education remains a major challenge with high dropout rates resulting in a sizeable number of out-of-school children.

Not all children have access to education. Gross intake at Grade 1 dropped from 145% in 2009 to 96% in 2015 with the result that not all children entered primary. In addition, almost all P1³ students (79%) were over-aged in 2015. Due to high dropout rates, only 14% of children completed primary education in 2015 (up from 8% in 2009). The high dropout rate between P1 and P2 could be linked to poor pupil preparedness following low coverage of pre-primary. The transition rate from primary to secondary education has also deteriorated. In 2009, 87% of primary leavers continued to S1, compared to only 69% in 2015. When GUPN states are excluded, access improves for all grades, highlighting better schooling access conditions in non-GUPN states compared with GUPN states, especially for primary. The disrupted schooling system in GUPN states is affecting the overall schooling pattern, making the situation gloomier.

Figure ES3. Transversal profile, primary and secondary levels, 2009 and 2015 (gross access rate, %)


Sources: World Bank, 2012; MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.

Many children and youth are out of school due to lack of access and high early dropout rates. In 2015, 62% of children of primary school age (1.37 million) and secondary school age (630,000) were estimated to be out of school. Incidence is particularly high in the GUPN states, where 82% of children and youth were out of school, on average, following the closure of many sites due to the conflict. Related insecurities may also have deterred children from attending even

3. The structure of South Sudan's education system is outlined on page 48.

when schools were operational. Based on current schooling patterns, a South Sudanese person can expect to receive a total of five years of schooling, on average, dropping to two years in GUPN states. This is significantly lower than the eight years of basic education stipulated in the General Education Act (2012).

Early dropout represents the main source of resource wastage. In 2015, 75% of primary resources were wasted following early dropout and repetition. In secondary, the level of waste is much lower at 54%. Repetition is less of an issue: 9% of primary pupils and 4% of secondary pupils are repeaters; however, this level might still be reduced further given its negative consequences (e.g. increased costs and dropout).

The education system is characterized by pronounced gender and geographical schooling disparities.

While some progress in female schooling has been observed, female students remain under-represented. The share of female students has barely changed between 2008 and 2015, although there have been slight improvements in female representation at primary and secondary levels, possibly as a result of the girl's cash-transfers programme supported by the UK Department for International Development (DFID).⁴ In other sub-sectors of early childhood development and education (ECDE), the share of female students has stagnated, although parity has almost been reached, and the share has also decreased by a percentage point in AES over this period. Additionally, the share of female students is decreasing from lower to upper levels of education, from 48% in ECDE to 24% at university level. However, lower female schooling levels are mainly generated at primary school entry – female access to primary Grade 1 is 34 percentage points lower than that of boys, with disparities weakening thereafter. In addition, once girls have reached secondary they tend to drop out at a relatively lower rate than boys.

Table ES3. Evolution of share of female students and Gender Parity Index, 2008–2015 by sub-sector

	Share of females enrolled		Gender Parity Index (F/M)	
	2008	2015	2008	2015
Pre-primary	48%*	48%	0.92*	0.92
Primary	37%	40%	0.59	0.68
Secondary	29%	31%	0.41	0.46
TVET	–	39%	–	0.64
AES	44%	43%	0.77	0.74
Higher education	–	24%	–	0.32

Source: MoEST, 2008–2015. Authors' computations.

Note: *Refers to 2011 data.

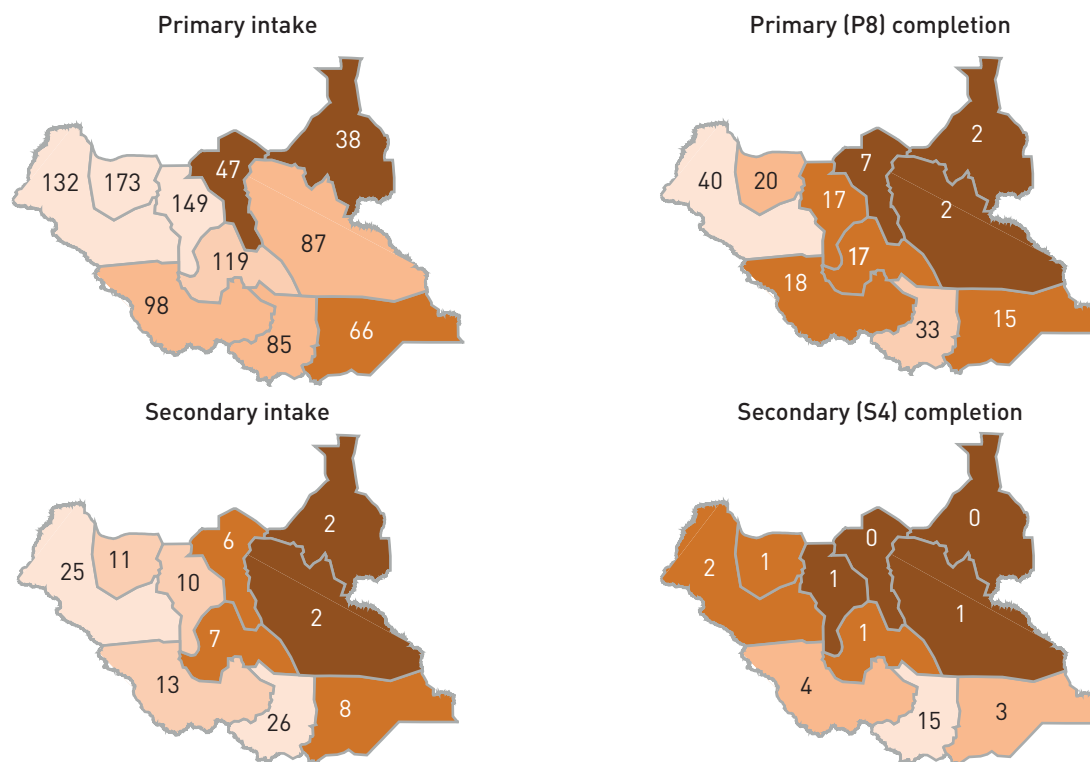
Wide disparities have been observed among states in the share of enrolled female students. The share of enrolled female students at primary level varies from 34% in Lakes to 48% in Central Equatoria. The widest disparities are observed at secondary level, where the share of enrolled female students reaches 38% in Central Equatoria compared with 16% in Upper Nile. While the level of country risk has an impact on female schooling, with relatively few girls enrolled in higher risk areas, strong bias against girl's schooling is a significant factor in some states, especially Lakes, Northern Bahr el Ghazal, and Warrap. In these states, females tend to be viewed as a source of wealth for the family as a result of dowry payments and relocation of the girl to her husband's family once married. In addition, early marriage is favoured to reduce risk of sexual activity or contact before marriage.

The system is marked by major disparities between and within states regarding provision of schools and enrolment coverage. The situation is particularly critical in the Northern States and risk-affected areas, which have experienced major disruption to service delivery following massive population displacement, further aggravated in 2015 by rapid economic deterioration and the severe drought in the northern part of the country. Access to primary education varies between 38% in Upper Nile and 173% in Northern Bahr el Ghazal. However, while disparities tend to prevail throughout the cycles, they tend to narrow from access to P1 to secondary completion. Indeed, the gap (i.e. the difference between the lowest and highest performers) reaches 38 percentage points in primary completion, compared with 24 percentage points in access to secondary and 14 percentage points in the completion of the secondary cycle.

4. Cash transfers are direct payments made to girls enrolled in P5 through S4 and regularly attending school. Under this programme, approximately 127,000 girls received some form of financial support in 2015 (South Sudan Attendance Monitoring System [SSAMS] website). The level of support is quite substantial given that in 2015 there were 140,500 girls enrolled in P5 to S4, according to the Education Management Information System (EMIS).

Here again, central-southern and western states tend to perform better. The northern states display particularly low values with regard to secondary completion.

Figure ES4. Intake and completion rates, primary and secondary, by state, 2015 (gross access rate, %)



Sources: MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.

Where possible, humanitarian agencies have intervened focusing on communities most affected by population displacement, including protection of civilian (PoC) sites and internally displaced persons (IDPs) in the GUPN states. Their main objective is to ensure uninterrupted access to quality learning in protected spaces for conflict-affected children. This means constructing temporary learning spaces, supplying schools with teaching and learning materials, providing training on key areas to teachers and parent-teacher associations (PTAs), and paying incentives to voluntary teachers. In 2015, humanitarian interventions reached 415,308 learners (85% of the target) in areas of Central Equatoria, Jonglei, Lakes, Unity, and Upper Nile. More than 37,000 children living at PoC sites were enrolled in primary schools of which 41% were girls (representing a GER of 46%). However, lack of funds, high turnover among partners, and inaccessibility of some locations due to insecurity prevented actors from successfully intervening in all cases, hence the missed target.

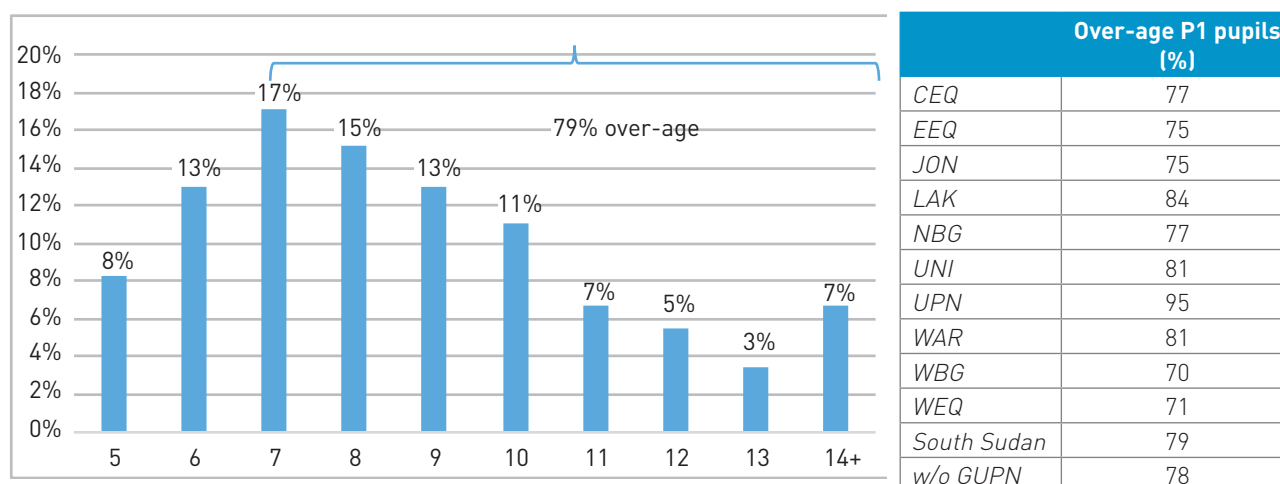
Refugee children are also being provided with schooling opportunities through support from the UN High Commissioner for Refugees (UNHCR) and the UN Children's Fund (UNICEF). UNHCR provides education services to refugee children across nine camps located in Central Equatoria, Unity, Upper Nile, and Western Equatoria, hosting an estimated 93,201 children of school-going age. The support it provides includes construction of school infrastructures, school supplies, teacher salaries/incentives, training of refugee teachers, and support to host communities. The latter has in some cases resulted in conflict or tension between refugees and the host community. Bridging this gap is critical to enhancing peaceful co-existence between the two communities, which often requires intervention on the part of other humanitarian or development actors operating within their mandate.

While insecurity prevents many children from accessing school, especially in the Greater Upper Nile states, poverty contributes heavily to non-enrolment and early dropout. However, supply-side constraints are also at stake, with very few schools offering the full cycle.

Poverty is a major factor preventing parents from sending children to school. According to head teachers, difficulty in paying fees (20% of cases) and inability to pay for uniforms, exercise books, and other school-related costs restrict students' access to education. Early marriage and pregnancy affect girls (32% of cases at secondary level), while

enrolment in the military causes boys to drop out. A survey conducted in Juba, Rumbek, and Wau also highlighted insecurity (77%), school closure (21%), and conflict (19%) as important factors deterring children from attending school. Late entry is pervasive (79% of primary pupils are over-aged) and increases the risk of early dropout, as opportunity costs increase with age.

Figure ES5. Distribution of P1 pupils by age, and over-age* children by state, 2015 (%)



Source: MoEST, 2008–2015. Authors' computation.

Note: *7 years and older.

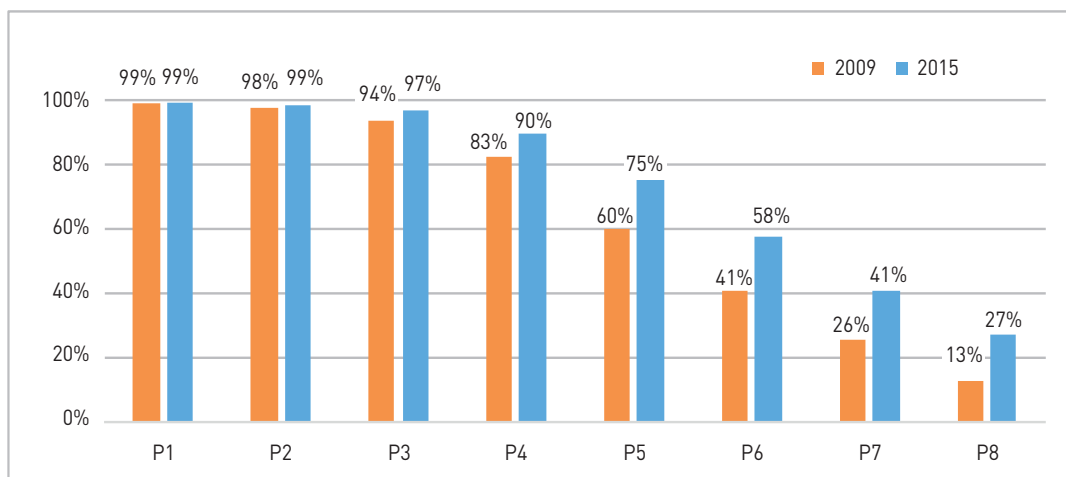
Recruitment of children into the armed forces and armed groups has taken various forms, including coercion, abduction, and children joining of their own volition. Children are at risk of recruitment in refugee camps, IDPs camps, PoC sites, and their own community. While various factors account for this situation, lack of alternative livelihoods and education opportunities increases vulnerability and risk of recruitment. Investment in vocational training is necessary and support for a reintegration package to address the individual needs of children is urgently needed. It should also be noted that the proliferation of small arms and easy access to weaponry has continued to compound the problem.

Barriers for children with disabilities also prevail. In 2015, children with disabilities accounted for only 1.7% (approximately 21,300 pupils) of total primary school enrolment (below the World Health Organization [WHO] norm of 5%), 2.2% in pre-primary (2,386 pupils), 2.7% in AES (3,870 pupils), and 3% in secondary (1,972 students). The three main barriers preventing children with disabilities from accessing education are long distances to school (84%), negative attitudes (52%), and lack of teacher experience (42%). Teasing and bullying were mentioned in 24% of cases.

Three-quarters of primary schools do not offer all eight grades, placing numerous pupils at risk of dropout, especially in GUPN. In addition, 41% of primary pupils were enrolled in schools that did not offer grade continuity. This corresponds to 550,000 pupils potentially at risk of dropping out early from school. Most of these children (390,000) are found in GUPN states, a situation most likely linked to the closure of many schools in this region. In non-GUPN states, the corresponding share of pupils facing no-grade continuity is much lower at 19%, corresponding to 163,000 pupils potentially at risk of early dropout. Additionally, not all counties have a secondary school, and those that exist are situated in or near urban centres. As a consequence, long distances to school are limiting access to education.

Attacks against schools have occurred throughout the conflict and have tended to worsen since the renewal of hostilities in 2013. It is estimated that 10% of schools have been damaged following years of conflict. School occupation by both army and IDPs is also prevalent. As of end-November 2015, 38 schools were occupied by the army and 55 by IDPs, compromising the schooling of an estimated 67,700 children. The vast majority of these schools (76 out of 93) are located in GUPN states. At the same time, 59 schools were vacated following continuous advocacy efforts. South Sudan is indeed committed to securing the education system from violence, as shown by the various legal instruments in its possession, including the Safe Schools Declaration endorsed in June 2015 and integrated within the draft General Education Policy Framework of 2015. However, the Ministry is facing major challenges to the implementation of directives, which include the ongoing conflict affecting many parts of the country, insufficient funding and awareness of legal instruments/policies, and the inaccessibility of remote areas.

Figure ES6. Share of schools offering a given grade in primary, 2009 and 2015 (%)



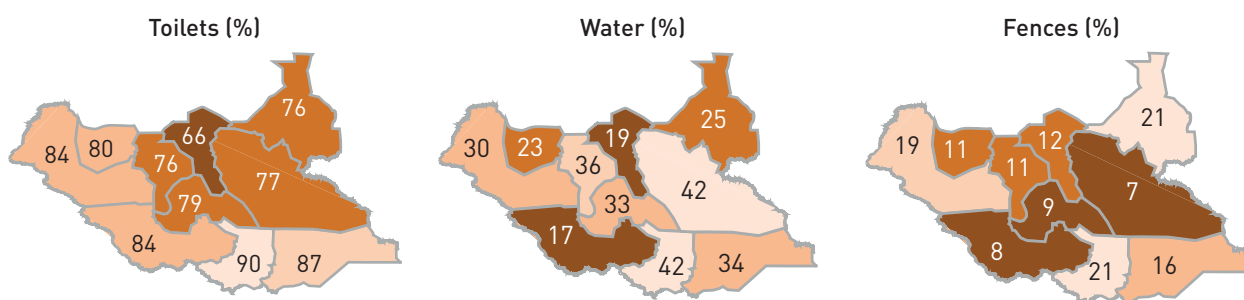
Sources: World Bank, 2012; MoEST, 2008–2015. Authors’ computations.

The learning and teaching environment is not conducive to proper learning.

Condition of classrooms is poor. On average, more than one-third of primary classrooms in South Sudan are open air, tent, or roofed spaces. In 2015, 36% of classrooms were permanent structures and 27% were semi-permanent, compared with 25% and 29%, respectively, in 2009. This poses a major challenge since schools located in structures that cannot withstand rain are unlikely to be conducive to proper learning or function for the whole school year, potentially leading to significant loss of instructional time – a major element in learning outcomes. Areas most affected by risks have the lowest share of permanent classrooms at both primary and secondary levels.

Most schools lack basic facilities and equipment. While most schools have access to toilets (85% have toilets, and 54% have separate toilets for male and female), fewer than half of primary schools have access to water (32%) and a health centre (9%), and only 58% have a playground. At secondary level, access to facilities is better: 83% of schools have access to water and 88% have toilets (84% have separated toilets), but only 58% have a playground. However, there is no clear correlation between the distribution of these basic facilities and risk levels. A large number of schools also lack basic learning equipment such as desks and chairs, blackboards, and chalk.

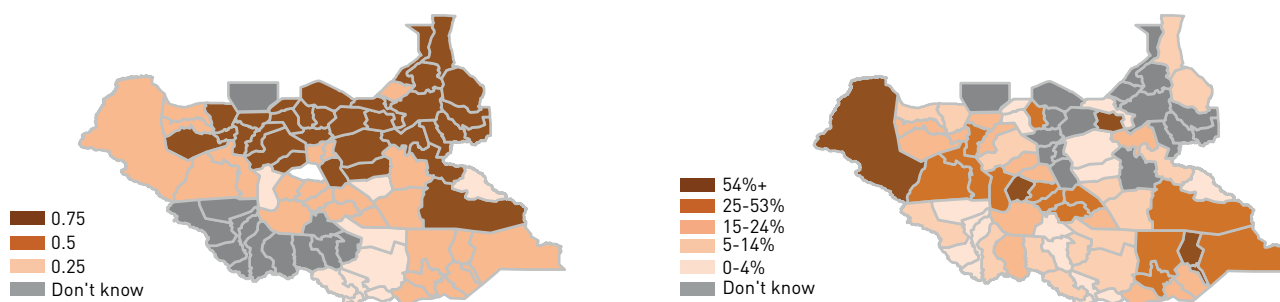
Figure ES7. Share of primary schools with toilets, water, and fences, by state, 2015 (%)



Source: MoEST, 2008–2015. Authors’ computations.

Textbooks are in short supply and are poorly allocated to schools, especially in risk-prone areas. On average, there is one textbook for every three pupils for English and mathematics. From the lowest to highest level of risk, the number of pupils per English textbook more than triples, from two to seven.

School feeding does not seem targeted to areas where it is most needed. To ensure that pupils receive adequate food, schools provide students with meals. In 2015, 18% of primary schools and 14% of secondary schools offered school meals. However, these meals do not seem to reach the areas where malnutrition is most critical. In GUPN states, difficulties of access related to the conflict, and the shift from school-based to community-based humanitarian support, may be contributing to lower levels of school meals.

Figure ES8. Malnutrition severity index (left) and % of school with meals (right), 2015

Source: OCHA 2015 malnutrition risk index; MoEST, 2008–2015. Authors' computations.

School safety is a major issue in South Sudanese schools due to prolonged instability. Only 13% of primary and 36% of secondary schools are fenced. According to the Girls' Education South Sudan (GESS) School Baseline Survey report, the majority of boys and girls feel quite safe in their classrooms. However, the survey did not cover GUPN states which pose the highest risk levels. Even in non-GUPN states, 25% of girls stated that they did not feel safe on school playgrounds, 20% of pupils did not feel safe on their journey to school, and almost half of pupils felt unsafe using school toilets.

Very few teachers are qualified or have mastered English, the main language of instruction. In 2015, only 41% of the teaching force was qualified, up from 28% in 2009, ranging from 38% in primary to 56% in secondary. The use of English as the main language of instruction continues to be problematic in terms of sourcing qualified teachers, especially in the north, where the majority of teachers come from an Arabic background. Unfortunately, the current teacher training system does not meet the needs for teacher training and upgrading. The lowest shares of qualified primary teachers are found in Unity (22%) and Upper Nile (18%) states, while in Western and Central Equatoria almost half of primary teachers are qualified.

Class sizes are large especially in lower grades, implying a shortage of teachers. On average, there are 56 pupils registered per class, decreasing from P1 with 75 pupils per class to 39 in P8. Lower grades tend to have bigger class sizes, which makes instruction more difficult. This is particularly concerning as strong foundations are built at lower grades, and smaller class sizes are needed to ensure adequate follow-up of pupils. Class size also tends to be bigger at lower grades in higher risk counties.

Table ES4. Average class size, by grade, state, and county level of risk, government primary schools, 2015

	P1	P2	P3	P4	P5	P6	P7	P8	Primary
South Sudan	75	62	56	50	47	42	40	39	56
Non-GUPN	71	58	53	48	45	42	40	40	53
GUPN	90	82	75	63	59	46	39	36	74

Source: MoEST, 2008–2015; OCHA 2015 risk index. Authors' computations.

While the new curriculum has been revised to address critical issues such as safety and social cohesion, implementation remains a challenge.

Implementation of the new South Sudan curriculum has not been uniform throughout the country. In 2015, almost all primary classes (98%) were using the new curriculum, compared with 84% at secondary level. The new curriculum uses English as the language of instruction from P4 onwards. This has made implementation more difficult in the northern states, which are primarily Arabic speaking, and where there is a shortage of teachers fluent in English.

Instruction is primarily teacher-centred, despite the emphasis on student-centred learning and active student participation in the new South Sudanese curriculum framework. Reasons for the lack of student-centred instruction include overcrowded classrooms, especially in lower grades, and poorly trained teachers who lack the pedagogical knowledge and experience to master a more student-centred approach.

Not all schools offer the required teaching time. Shortened school calendars, school closures, and absenteeism have all affected teaching time. In 2015, 19% of primary schools were open fewer than the required 10 months as a result of late school starts, with significant variations between states (57% of primary schools in Warrap were open fewer than 10 months compared with 2% in Eastern and Western Equatoria). Meanwhile, teachers and head teachers

reported missing an average of approximately 8 and 11 days of school in 2013, while students missed five days due to ill health or death of a relative. Cumulatively, pupils missed up to one-third of schooling time due to late school starts, school closures, and teacher and student absenteeism, a situation detrimental to proper coverage of the syllabus and learning.

Multiple challenges with school inspections make it difficult to monitor quality. South Sudan has an established system for school inspection and supervision, which should be performed by county and *payam* officials in accordance with national guidelines. However, in reality inspection and supervision happen infrequently and are often poorly conducted. For instance, only 18% of *payam* supervisors sampled in the survey visited schools the required number of times (four to seven times per year), while 54% visited two to three times a year and 3% never visited. Inspection offices lack transportation, communication tools, and basic furniture. Inspectors themselves lack training and are few in number.

Leaving assessments show insufficient levels of mastery in literacy and numeracy, starting in early grades. Given the high prevalence of early dropout, many students leave school without the necessary skills to sustain a productive life.

National leaving examinations occur at the end of both primary and secondary levels, and show relatively good results. In 2014, the average primary pass rate was 81% (similar value in 2009) with variations across states. The pass rate was higher for boys (83%) than girls (75%), who accounted for only 34% of candidates sitting the exam. Since primary examinations are developed and administered at the state level, valid cross-state comparisons are not possible. For the secondary leaving exam, 74% of students passed in 2014 (against 60% in 2009), with female candidates accounting for only 30% of students. Pass rates again vary across states and are higher among boys (75%) than girls (71%), although disparities have narrowed since 2009.

However, according to a sample-based learning assessment, students may not be mastering the basics of literacy and numeracy. A GESS pilot survey administrated across a sample of primary and secondary schools/students showed poor results overall for both literacy and numeracy. Average scores varied between 53% (S2 students) and 62% (P8 students) for literacy, and between 30% (S2 students) and 40% (P5 and P8 students) for numeracy. P8 students performed better than P5 students on literacy tests, but produced similar scores on numeracy tests. This may be a function of improvement in literacy competencies over the years, different test levels, or weak teaching of numeracy at primary level. The low scores in S2 may indicate a lack of mastery of competencies (teachers and learners), or may be linked to the difficulty of the assessment. Girls performed less well than boys, especially at P5, but the gap tended to narrow in the upper grades. Teachers have not received training in teaching literacy and numeracy in either their mother tongue or English. Therefore, capacity among teachers to address issues in early grade literacy and numeracy is limited. Additionally, there is a tendency to assign the least qualified teachers to lower grades, further harming early learning. Since the dropout rate is also very high, a large number of students leave school without the minimum literacy and numeracy skills.

Given both resource constraints and pressures to expand capacity, budget allocation is paramount. However, management and deployment of teachers is far from optimal or equitable.

The teaching force contains only a few permanent, female, or qualified staff. In 2015, according to EMIS, the education system in South Sudan consisted of 37,500 teachers, of whom approximately 24,500 (64%) worked in government schools. Sixty per cent of teachers held a permanent appointment, ranging from 59% in primary to 73% in secondary. Women accounted for a very small share of teachers: only 14% of teachers in primary and 11% in secondary were female. These proportions have barely changed since 2009.

Pupil-teacher ratios are relatively good due to massive reliance on volunteer and part-time teachers. The pupil-teacher ratio (PTR) in government schools ranges from 19:1 in secondary schools to 44:1 in primary, with the ratios for AES and pre-primary standing at 28:1 and 37:1, respectively. PTRs have improved across the board; for example, the primary PTR has fallen from 52:1 in 2009 to 44:1 today. PTRs are much higher when only permanent teachers are considered, rising from 44:1 to 75:1 for primary. The high reliance on volunteer and part-time teachers, especially in primary and AES (40% of teachers), is helping to reduce PTRs. In primary, their contribution has helped to reduce PTRs below the national target of 50:1. Volunteer and part-time teachers are mainly concentrated in counties in Greater Upper Nile, Northern Bahr el Ghazal, Lakes, and Warrap states. Insecurity may be a major underlying factor, highlighting the difficulties encountered in attracting and retaining permanent teachers in risk-prone areas. Additionally, the lack of English-background teachers in the northern states encourages reliance on volunteers and part-timers.

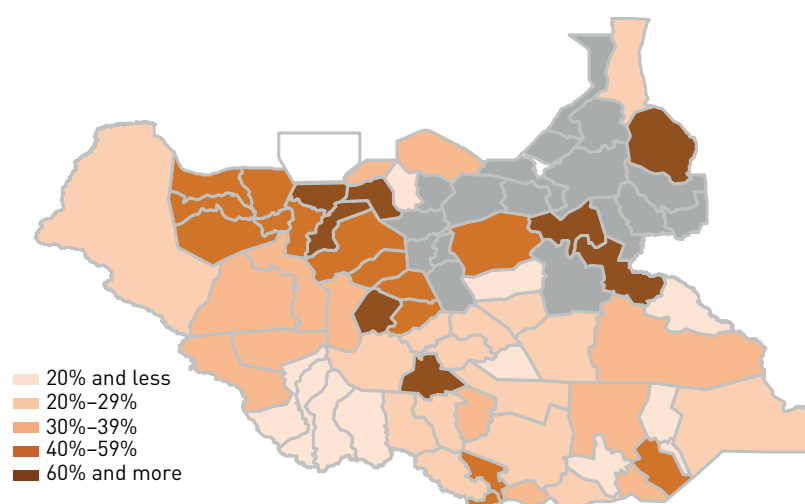
Table ES5. Teacher characteristics, by sector, 2015

	Pre-primary	Primary	Secondary	AES**
Number of teachers	3 148	28 957	3 569	5 237
Number in government schools	937	19 858	1 939	3 637
% in government schools	30%	69%	54%	69%
% permanent	64%	59%	73%	60%
% female	53%	14%	11%	12%
% qualified*	48%	38%	56%	46%

Source: MoEST, 2008–2015. Authors' computations.

Note: *Teachers' qualifications could not be defined for 7% (pre-primary) to 15% (secondary) of teachers in 2015, and between 4% and 12% in 2009. **Many AES teachers are also primary teachers. EMIS data do not enable AES teachers who teach in both primary and AES schools to be distinguished from those who teach only in AES schools.

Figure ES9. Share of volunteer and part-time teachers, government primary schools, by county, 2015 (%)

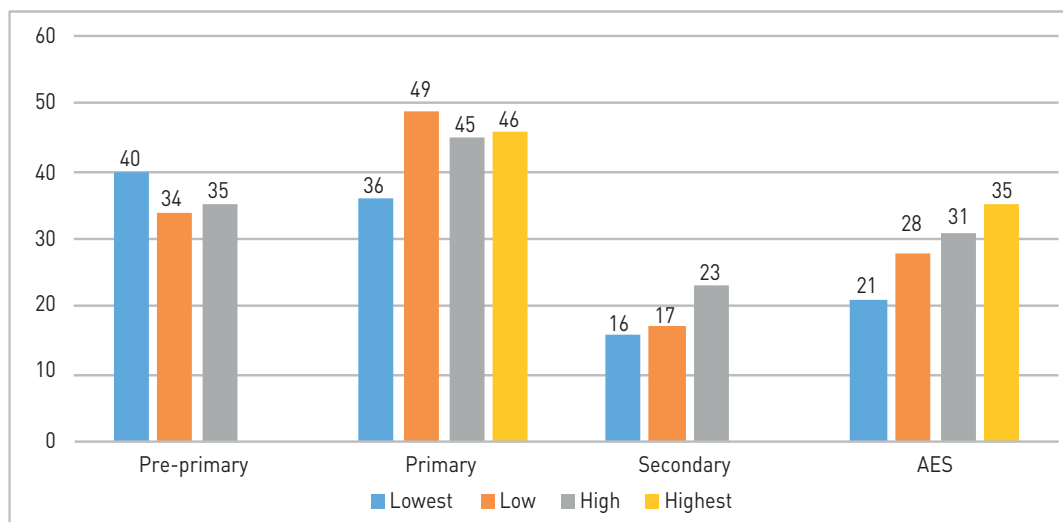


Source: MoEST, 2008–2015. Authors' computations.

Strong disparities are nevertheless observed across states and counties, and according to the level of county risk. States disparities are strong especially in primary, where PTRs range from 33:1 in Western Equatoria to 59:1 in Jonglei. State averages hide even more important disparities between counties, with PTRs over 100:1 found in many primary schools. PTRs tend to be higher in high-risk zones than in low-risk zones (except in pre-primary), despite the recruitment of volunteer teachers. This highlights the difficulty of attracting and retaining teachers in those areas, ultimately penalizing students who already face high-risk and poor teaching conditions. More generally, these wide disparities highlight the non-equitable allocation of teachers to schools across the territory, which could potentially fuel resentment and grievance.

Teacher deployment to schools displays little coherence. Teacher deployment to schools matches enrolment levels in only 39% of cases. At secondary level, 61% of teacher deployment matches enrolment levels compared with 27% for pre-primary and 22% for AES. Wide disparities are observed across states: 64% of teacher deployment in Central Equatoria matches enrolment levels compared with only 14% in Jonglei. Coherence of teacher deployment is strongly affected by the level of county risk. Coherence drops from 58% in the lowest risk counties to 30% in the highest risk counties, highlighting the substantial teacher management difficulties there. Widespread insecurity coupled with poor working conditions and higher opportunities to join the police and military forces (offering better pay) all contribute to the poor allocation of teachers in Greater Upper Nile and Warrap.

Figure ES10. Pupil–teacher ratios, government schools, by sub-sector and level of county risk, 2015



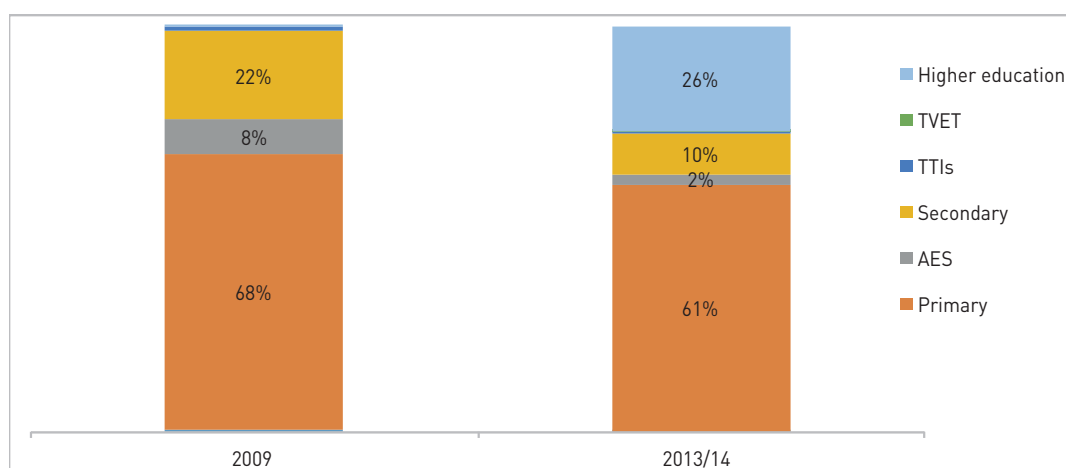
Source: MoEST, 2008–2015. Authors’ computations.

Note: There were insufficient observations in the highest risk category for pre-primary and secondary to compute reliable indicators.

Primary, AES, and TVET sectors receive insufficient attention in education spending trade-offs given the huge challenges faced by the primary sector and the need for increased AES and TVET opportunities.

The budget has accorded growing importance to higher education. While primary education still received the largest share (59%) of recurrent education expenditures in 2013/14, it recorded a major loss (9 percentage points) compared with 2009, as did the secondary sector (12 percentage points), which declined from 22% to 10% over the same period. These decreases followed a major increase in higher education expenditure, which rose from basically zero to 26% of total recurrent expenditure in 2013/14. This increase was a result of independence, with the South Sudanese government taking over responsibility for this sub-sector from the Government of Sudan, resulting in a sizeable increase in its share of the budget. The share of AES also declined from 8% to 4% over the same period. Spending on a number of other sub-levels (teacher training institutes [TTIs], pre-primary, and TVET) was also rather marginal, receiving 1% or less of total expenditure.

Figure ES11. Estimated breakdown of public recurrent education expenditure by level of education (government funds), 2009 and 2013/14 (%)



Sources: MoFEP, 2011–2015; MoLPS (2013–2014) and state grant estimates; World Bank (2012) for 2009 data. Authors’ computations.

Note: *In 2009, Khartoum accounted for the majority of spending on higher education.

Capital spending is very small (less than 4% of total expenditure) leading to inadequate resources to provide badly needed school infrastructure.

The majority of expenditure goes to schools, yet spending on operational costs is low. In 2013/14, out of SSP426 million spent on education in recurrent expenditure, 69.5% went to schools (49% to teacher salaries, 16% to non-teaching staff salaries, and 5% to school operation), while 30.5% went to sector management, with 17% for salaries. This breakdown differs significantly from one sector to another. School spending varies from 58% in AES to 89% in TTIs, with a relative emphasis on salaries, especially teacher salaries at basic and secondary education levels. At the same time, a very high proportion of recurrent expenditure in basic education goes to sector management (37% to 38%). These allocations proved detrimental for school operation, which received almost no funding, as the related costs were borne mainly by parents. As operational expenditures are vital for the functioning of schools and, therefore, for the delivery of quality education, the quasi-absence of school operating costs is a major source of concern. That said, it is important to note that in 2014 MoEST introduced school capitation grants, intended to cover school operational costs, with the underlying objective of improving the school environment and making education less costly for parents.

Table ES6. Distribution of public recurrent education expenditure, by function, 2013/14 (%)

	Pre-primary	Primary	AES	Secondary	TTI	TVET	HE*	Total
School level	63.2	61.5	57.9	76.4	89.4	81.3	85.5	69.5
Teacher salary	49.5	51.8	56.7	62.8	52.4	49.5	37.0	49.2
Non-teaching staff salary	13.7	4.9	1.1	13.6	37.0	31.8	41.6	15.7
School operational costs	–	4.8	–	–	–	–	6.9	4.6
Sector administration salary	23.2	24.3	26.6	12.5	2.2	9.9	1.7	17.0
MoEST	2.1	2.2	2.4	2.6	2.2	2.1	12.8	2.1
SMoEST**	7.8	8.2	9.0	9.9	–	7.8	–	6.1
County/Payam	13.4	14.0	15.3	–	–	–	–	8.8
Sector administration operational costs	13.5	14.2	15.5	11.1	8.4	8.8	12.8	13.5
MoEST	7.9	8.3	9.1	10.1	8.4	7.9	12.8	9.7
SMoEST	0.8	0.9	0.9	1.0	–	0.8	–	0.6
County/Payam	4.8	5.0	5.5	–	–	–	–	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Amount in ml SSP	1.2	250.2	15.8	41.5	4.5	1.0	112.0	426.2

Sources: MoFEP, 2011–2015; MoLPS, 2013–2014. Authors' computations.

Note: *HE = higher education. **SMoEST = State Ministry of Education, Science, and Technology.

Unit costs at primary level are low, driven partly by low salaries that heavily penalize the delivery of quality education services.

Unit costs tends to increase with the level of schooling, rising from SSP42 at pre-primary to SSP7,003 at tertiary. The cost per student at TTIs is quite high at SSP27,693, as many non-active teachers are accounted for in the computations and the number of students enrolled is very small. As such, the amount does not reflect the true unit cost per student, which could be estimated at approximately SSP7,200 in a normal functional setting, a level that is nevertheless still high.

Unit costs in primary are low at SSP261 and represent 7% of GDP per capita, much below comparable countries. This is due mainly to low primary teacher salaries, which were 2.1 times GDP per capita in 2013/14 (or SSP7,622/year). The low unit cost for operating schools is also worrisome, as this could further harm quality of teaching and learning. However, the introduction of the school capitation grant in 2014 is designed to address this issue.

Unit costs are much higher in secondary at SSP1,438 or 5.5 times the unit cost for primary. This can be explained by a combination of higher teachers' salaries (SSP14,461/year), a very low pupil-teacher (on payroll) ratio (16:1 compared with 56:1 in primary), and a large number of non-teaching staff (one non-teaching staff member per 34 students compared with 363 pupils in primary schools). This points to the need for policies to increase PTRs in secondary schools and rationalize non-teaching staff at school level.

Table ES7. Public unit costs by level of education, 2013/14

	Recurrent expenditure 2013/14 (SSP)	Enrolment 2013	Cost per student (SSP)	Unit cost	
				As a proportion of GDP per capita (%)	Multiple of primary UC
Pre-primary	1 158	27 775	42	1%	0.2
Primary	250 243	957 301	261	7%	1.0
AES	15 757	130 192	121	3%	0.5
Secondary	41 488	28 849	1 438	39%	5.5
TTIs	4 514	163	27 693	746%	105.9
TVET	1 028	3 050	337	9%	1.3
Tertiary	112 041	16 000*	7 003	189%	26.8

Source: MoFEP, 2011–2015; MoLPS, 2013–2014; MoEST, 2008–2015.

Note: *Estimates are based on 2012 and 2015 enrolment data. Authors' computations.

The current teacher salary structure is characterized by low grades, cessation of promotion and pay increases since 2007, low salaries, and delayed salary payments, rendering the teaching profession unattractive and jeopardizing the delivery of good education. Government teacher salaries have not been revised since 2007 and their value in real terms has halved since 2009. Teacher salaries are now lower than those of the police, military personnel, and security guards, professions that have all recently received large pay increases. The rapid depreciation of the value of the SSP against the US dollar and high levels of inflation are further eroding the purchasing power of teachers. In early 2016, the government issued an order to triple the salaries of government employees classified as salary grades 17 to 10, which includes most teachers. Salary increments were also proposed for managerial staff. Due to lack of public funding, however, the measure has not yet been implemented (as of mid-2016). Lack of public resources is also preventing the payment of allowances (e.g. chalk, hardship, or standing allowances) and benefits (e.g. health benefits and fee-free education for MoEST staff), which would result in increased salaries. Teacher attrition (14%) is high and is mainly driven by low wages and poor motivation.

1. Background and context

This chapter offers a discussion of the geographic, political, humanitarian, demographic, social, and macroeconomic contexts affecting the education sector in South Sudan. It is divided into five sections: the first deals with information related to the geographical, political, and humanitarian background; the second and third sections tackle demographic and social aspects respectively; the fourth offers a brief overview of the macroeconomic and fiscal context; and the fifth looks at external funding from both development and humanitarian partners. These last factors, while external to the education system, heavily shape both education demand and supply.⁵

1.1 General background

The Republic of South Sudan (RSS) is a landlocked country located in north-east Africa and shares borders with the Central African Republic, the Democratic Republic of Congo, Ethiopia, Kenya, and Uganda, as well as Sudan. South Sudan has a surface area of 644,000 km² making it the 11th-largest country in sub-Saharan Africa, equivalent to the size of France.

Figure 1.1. Map of South Sudan, 2015



Source: OCHA, 2015a.

The population is diverse with 64 main ethno-lingual groups. The four largest groups (Dinka, Nuer, Zande, Bari) make up 65% of the population. The country is divided into 10 states,⁶ which are sub-divided into 79⁷ counties and further divided into *payams* and then *bomas* (villages).

1.1.1 Geographic and infrastructure

South Sudan is characterized by open grasslands, one of the world's largest wetlands (the Sudd), and rainforests. The climate is hot with two main seasons – wet and dry. The wet season begins towards April and ends around November, give or take a month. From January to March, the country sees practically no rainfall; this influences agricultural production, which is entirely rain-fed. Diverse ecology provides a growing season that ranges from 280–300 days in the south-western part to 130–150 days a year in the northern states. Agricultural performance varies depending on latitude and longitude with the possibility of 'two or three harvests per annum from the same plots in

5. This education sector analysis is based on the mobilization and analysis of information ranging from social to macroeconomic and budget data to education data, drawn mainly from the Education Management Information System (EMIS). In many cases, major flaws affected the available data (see *Annex 1*). The quality of the data used was therefore systematically assessed (via proper data disaggregation and triangulation) to ensure reliability and robustness.

6. At the time of writing, the South Sudanese government was endeavouring to divide the 10 states into a further 28.

7. The number of counties is contested for two reasons. First, Abyei is claimed by both Sudan and South Sudan and as such is included here. Second, in 2015 and 2016, several new counties were created by splitting existing counties; however, details on these new counties are not readily available. The National Bureau of Statistics as well as UN data affirm that there are 79 counties.

Greater Equatoria Region, and a single harvest in the unimodal areas further north' (FAO, 2016a). There is usually considerable variation in rainfall from year to year and from location to location within the same year. In low-lying areas, flooding/water-logging is common, while many areas near the Sudanese border and in the south-east corner of the country are susceptible to prolonged dry periods (FAO, 2016a).

The land is fertile: more than 90% is arable, yet only 4.5% was under cultivation at the time of independence in 2011. After several years of conflict this percentage has decreased significantly 'due to widespread insecurity, damage to agricultural assets and limitations in traditional farming methods' (FAO, 2016c). In addition to land, the annual catch of freshwater fish is estimated to be between 40,000 and 45,000 tonnes, with potential to expand the industry (FAO, 2016a). The country is also abundant in oil, teak, gum Arabic, and natural mahogany, and there are believed to be unexploited mineral resources, including gold.

South Sudan has only minimal infrastructure. Out of the 7,000 km of trunk roads, 6,000 km of secondary roads, and 2,000 km of tertiary roads, only 2% is paved (UNDP, 2015). There is no national rail system, with the only existing rail line running from Wau (Western Bahr el Ghazal) to Babanusa in Sudan. Despite the presence of the Nile, water-based trade is hampered due to silting at Juba Port (UNDP, 2015). Urban centres throughout the country are often accessible only by land during the dry season, while weather during the rainy season renders up to 60% of the country inaccessible except by air.

Communications are under-developed in South Sudan. Most of the population lack access to information with only one in five able to access a mobile phone (OCHA, 2015d). Phones are often shared within families or communities and airtime is an expense most households cannot afford. Phone networks also suffer from fuel shortages and cuts in service. Only 1% of the population has access to the internet (OCHA, 2015d), and while data are available through mobile carriers, the cost is high. Most of the population (99%) also lack access to electricity (UNDP, 2015). There is no national power grid and while some towns have electrical cooperatives, the cost is also high. The prohibitive cost of providing private power through generators is usually only affordable for businesses.

1.1.2 Political and humanitarian context

The political situation has remained unstable for many years ...

Sudan gained independence from Anglo-Egyptian rule in 1956. Until the signing of the Comprehensive Peace Agreement (CPA) in 2005, the north and south of the country were engaged in two very long civil wars. The first lasted from 1955 to 1972 and was fought between the Sudanese government and southern rebels who demanded greater autonomy for southern Sudan. It ended with the Addis Ababa Agreement, which granted more autonomy to the south. The second civil war erupted in 1983 due to longstanding issues heightened by Sudan's decision to introduce Sharia law.⁸ The end of the second civil war was marked by the CPA, which instituted a six-year transitional period leading to a referendum and eventually to South Sudan's independence on 9 July 2011.

The conflict resulted in extensive destruction: 2.5 million people died and an even larger number were injured, the few existing infrastructures were damaged, and population displacement occurred on a massive scale. School buildings were burned down or occupied, and teachers and students were displaced, becoming either refugees or fighters. As a result, entire generations have been deprived of their basic human rights including education (MoGEI, 2012).

The CPA was signed by the Sudan People's Liberation Movement/Army (SPLM-A) and the National Congress Party, but excluded other political parties in the south, thereby failing to create a representative platform (ICG, 2011). This contributed to persistent dissatisfaction with the delivery of basic services and perceptions of injustice and exclusion from centralized power. In the years between the signing of the CPA and independence in 2011, power dynamics in South Sudan remained deeply divisive, with various issues that led to war with Sudan left unresolved.

The civil war that erupted in December 2013 in South Sudan is a legacy of this unresolved conflict. Fighting erupted after a power struggle between ousted Vice-President turned rebel leader, Riek Machar Teny, who formed the Sudan People's Liberation Movement/Army in Opposition (SPLM/A-IO), and President Salva Kiir Mayardit. While conflict was concentrated in the southern region prior to 2011, it shifted to the central and northern regions of South Sudan after independence and during the 2013 crisis.

In August 2015, President Salva Kiir signed a peace agreement with rebel leader Riek Machar, bringing an end to 20 months of conflict. The agreement lays out a comprehensive combination of 'political, economic, social and humanitarian steps and institutional benchmarks that serve as a bridge or transition to a durable peace' (UNDP, 2015). A central element of the peace agreement was the rapid formation by the Government of South Sudan and the SPLM/A-IO of a Transitional Government of National Unity (TGNU), which was ultimately set up in late April 2016. Nonetheless, stability remains elusive given the dissatisfaction expressed with the agreement by President Kiir, rising ethnic animosity, and splits among political and military factions in parts of the country. South Sudan continues to

8. For more information, see the Enough project, 'History of the Conflict': enoughproject.org/conflicts/sudans/history-of-the-conflict.

experience tremendous political and social upheaval, with divisions among the SPLM and fragmentation of the army, which has escalated into violence in many parts of the country.

... which led to a major humanitarian crisis

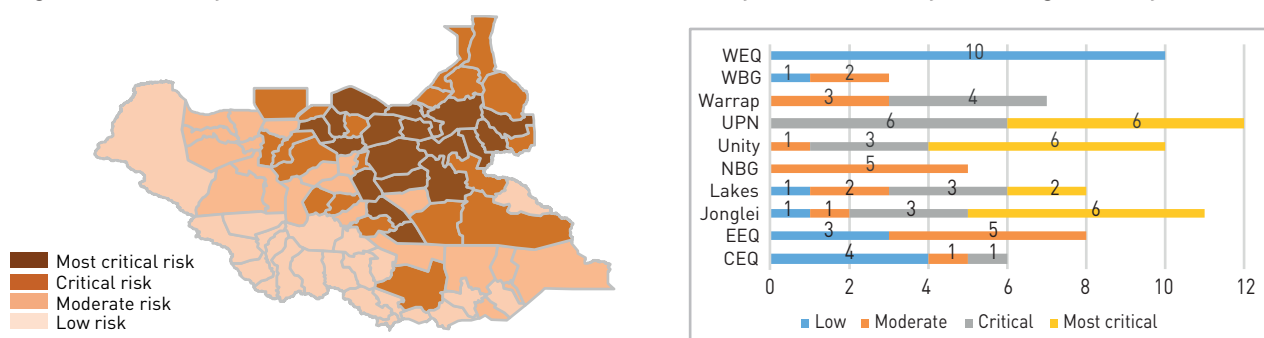
The consequences of this political instability are both complex and widespread. The intensification of hostilities since the outbreak of the conflict in December 2013 has resulted in numerous deaths and casualties, massive population displacement, reported human rights violations (OHCHR, 2016),⁹ and an increase in other forms of conflict including those non-political in nature: cattle raiding, revenge killings, pastoralist conflict over resources, and inter-ethnic tensions. These non-political conflicts have existed in the region for decades and are subject to flare-ups resulting from population movements and increased pressure on already limited resources. Economic pressure has intensified both for those who have lost goods in the conflict itself and those whose purchasing power has decreased as a result of inflation fuelled by severe episodes of drought (see *Box 1.2*, p. 44).

The country is facing a variety of risks

Risks¹⁰ are often interrelated and create a complex context for the education system. The timing of certain risks (e.g. flooding, dry seasons, and food insecurity) is relatively predictable. Other risks such as conflict and epidemics are unpredictable. The dynamics between the different risks make it difficult, if not impossible, to infer direct links or correlations between one risk and its effects on the education system. Instead, it is useful to examine a composite index of the severity of need.

The OCHA severity risk index provides insights into the level of risk at country level in early 2015 (*Figure 1.2*). The index is based on a series of indicators related to four main triggers: (i) conflict-affected civilians; (ii) death, injury, and disease; (iii) food insecurity and livelihoods; and (iv) widespread malnutrition (OCHA, 2015a). These observed risks were averaged over October 2014 and April 2015 to develop a synthetic risk index that was further divided into four levels, from 'low' to 'most critical' risk.¹¹ As expected, areas touched by conflict (the Upper Nile, Unity, and Jonglei) presented the highest risk, while those further away (Western Bahr el Ghazal and Western Equatoria) were less likely to be at risk. These four risks can be synthesized into two main categories: conflict-related and non-conflict-related risk.

Figure 1.2. County level of risk (left) and number of districts by level of risk, by state (right), early 2015



Source: OCHA county risk database, authors' calculations. See *Annex 2* for more information on county risk levels.

1.1.3 Conflict-related risk

War uproots individuals and families from their homes and occupations and disrupts social and public services including education. In South Sudan, violent hostilities have taken a massive toll on the population, including children. Since the outbreak of the conflict in December 2013, tens of thousands of civilians have died¹² and countless more

9. A report by the United Nations Human Rights Office of the High Commissioner in 2016 reported accounts of massive and widespread human rights abuses against civilians, including murder, arbitrary arrests, and looting and burning of villages, in addition to systematic use of sexual violence against women.

10. A risk is defined as 'the combination of the probability of an event and its negative consequences' (UNISDR, 2009).

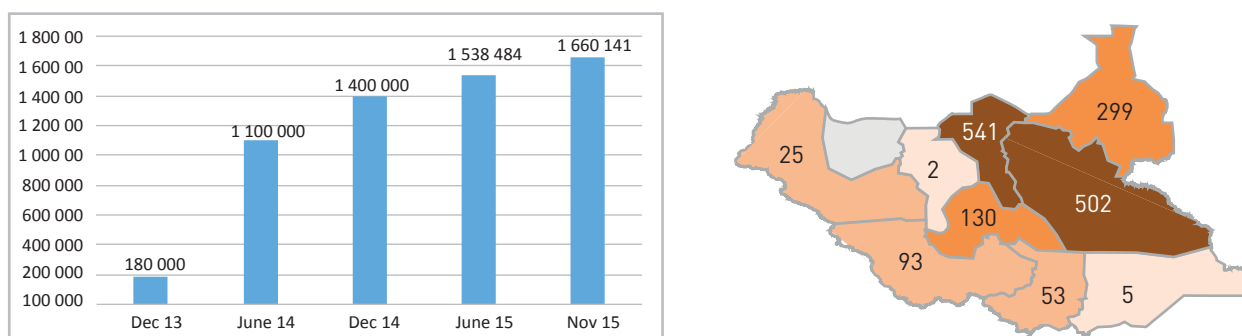
11. See *Annex 2* for more details on the four 'severity of needs' indicators and related synthetic indexes, as well as the methodology used to determine county risk levels. Note that these risk levels were merged with EMIS data at country level to map areas with the highest risk and to assess the potential effect of risks on a variety of schooling indicators (see *Chapters 2, 4, and 5*).

12. The International Crisis Group estimates that between 50,000 and 100,000 people across South Sudan have been killed between December 2013 and November 2014 (OCHA, 2015c), although exact figures are impossible to obtain. The OHCHR report (2016) stated that from November 2014 to November 2015, in Unity alone, an estimated 10,553 civilians died, 7,165 due to violence. There were also 829 deaths from drowning, with 890 persons abducted, and a further 1,243 persons missing.

have been injured. About 2.3 million people have been displaced, 1.66 million of them internally (of which 53.4% are children),¹³ while 645,000 have fled to neighbouring countries, mainly Ethiopia, Kenya, Sudan, and Uganda. The country is also hosting 267,500 refugees from neighbouring countries also facing conflict, including Central African Republic, the Democratic Republic of Congo, Ethiopia, and Sudan) (OCHA, 2015c).¹⁴

Countless human rights abuses have occurred, with soldiers reportedly exploiting populations through rape, looting, enslavement, and the diversion of humanitarian supplies (OHCHR, 2016). Meanwhile, crime in the capital, Juba, has increased significantly with ‘the police and army believed to be involved in the commission of many incidents’ (UNICEF ESARO, 2015), which explains the difficulties the government has encountered in enforcing respect for the law.

Figure 1.3. IDP trends (left) and state distribution of IDPs (thousands) (right), November 2015



Source: OCHA website; OCHA, 2015c.

Extensive use of small arms and a multiplicity of competing actors have led to insecurity

Long porous borders with conflict-affected neighbouring countries have contributed to South Sudan’s proliferation of small arms. The impact of these arms on security, peace, and development is a regional problem. According to UNDP, there are numerous drivers of community insecurity and armament:

- limited presence of governmental security forces who are seen as fair and impartial,
- reduced role of traditional leaders’ authority,
- massive youth unemployment,
- pastoralist communities competing for scarce natural resources while facing a dire lack of alternative livelihoods,
- forceful disarmament with no guarantee of security for disarmed communities,
- over-reliance on arms to settle political stalemate (UNDP, 2015).

Extensive use of and reliance on small arms coupled with a multiplicity of competing actors has led to the spread of insecurity, as seen in the second half of 2015, with heavy fighting in previously peaceful Western Equatoria and clashes in Western Bahr el Ghazal and parts of Eastern Equatoria (UNICEF ESARO, 2015). These situations have geographically wider consequences through impacts on markets and trade routes, as well as the widespread displacement of populations. The transition to a post-conflict South Sudan will take time and will depend on the ability of the security sector to reform and undergo disarmament, demobilization, and reintegration of its forces, as well as on the creation of strong mechanisms for resolving grievances peacefully.

1.1.4 Non-armed conflict

Disputes over natural resources including over the ownership and use of land, and competition over limited natural resources, are also frequent in South Sudan (Wassara, 2007). Land ownership is often problematic in border areas, where families displaced during the war may try to reclaim ancestral land. Tensions and clashes also arise between farmers and pastoralists, particularly during the dry season when herders are moving. Tribal or ethnic tensions are prevalent and often centre on the distribution of power, resource acquisition, revenge or the neutralization of threats. Lastly, an absence of peaceful resolution methods – formal or otherwise – sometimes transforms non-armed conflicts into armed ones.

13. Some 185,000 internally displaced persons (IDPs) have found refuge in protection of civilians (PoCs) sites operated by the UN Mission in South Sudan (UNMISS). Most IDPs, however, are living outside of PoCs (OCHA, 2015c).

14. Figures are for November 2015.

Food insecurity and malnutrition are having a severe impact on the population

South Sudan has experienced major disruptions to food security patterns caused by a number of factors, including conflict, human displacement, crop production, and market prices. The only area to have mechanized to any degree is the Upper Nile, where a large proportion of the fighting continues to take place. Conflict has affected the ability of farmers to access fields safely, thereby delaying planting, and has resulted in the destruction of crops. Taken together with less favourable rainfalls in 2015, the result has been a drop in crop yield of 10% compared with 2014, although this figure was still above average for the last five years. This led to a cereal deficit of over 380,000 tonnes, further increasing the deficit of previous years (FAO, 2016a). According to the Food and Agriculture Organization of the United Nations (FAO), 80% of this deficit could be traced to the conflict-affected states of the Greater Upper Nile Region.

Dryness also has major negative effects on economic activity, especially in pastoralist areas, which have faced major herd loss, leaving them extremely vulnerable. Intensive and abnormal migrations due to insecurity have also seriously depleted livestock health and stocks (FAO, 2016a).

The conflict has adversely affected supply market infrastructure and trade routes into and within South Sudan. This has disrupted markets and affected the supply of commodities, which ultimately fuelled inflation,¹⁵ thereby contributing to a vicious cycle of poverty and further limiting proper food intake by the population. Populations displaced by the conflict have presented additional demands for food, while the delivery of humanitarian assistance has proved difficult, particularly in conflict-affected areas.

As a result, South Sudan is marked by alarming levels of food insecurity and hunger.¹⁶ As of September 2015, 3.9 million people – one-third of the population – were severely food insecure and 3.6 million were considered to be 'stressed'. An estimated 30,000 people were facing catastrophic food insecurity in Unity leading to starvation, death, and destitution (OCHA, 2015c).

Nutrition remains precarious: as of November 2015 more than 1 million South Sudanese were acutely malnourished, including 686,300 children aged under 5 of which 231,000 were severely malnourished. Malnourished children are more vulnerable to disease and more likely to die early. Malnutrition also leads to irreversible damage to brain development and cognitive abilities. Nutritional status remains critical in Jonglei, Unity, and the Upper Nile, with two counties within Unity twice above the emergency threshold¹⁷ (OCHA, 2015c).

Epidemics and diseases

More than 30% of the South Sudanese population do not have access to safe water supplies and one-third rely on surface water. Access to sanitary facilities is even lower: only an estimated 15% have access to latrines (UNICEF ESARO, 2015). South Sudan is regularly affected by epidemics and contagious diseases. The major health-related threats are respiratory infection, acute watery diarrhoea, cholera, malaria, malnutrition, and measles (OCHA, 2014). South Sudan was hit by a cholera outbreak in May 2015 and by September 1,735 cases including 46 deaths had been reported in Juba and Bor counties (MoH and WHO, 2015). Eleven of the 46 deaths (24%) occurred in children aged under 5.

A lack of safe drinking water, safe excreta disposal, and poor hygiene practices, leave a large number at risk of preventable diseases. Children aged under 5 years, pregnant and lactating mothers, girls, people living with HIV/AIDS, and the disabled are the most vulnerable and affected by the lack of adequate water and sanitation services. In addition to globally poor living conditions, hundreds of thousands of IDPs are housed in under-resourced and overcrowded spaces prone to an increased risk of infectious disease outbreaks.

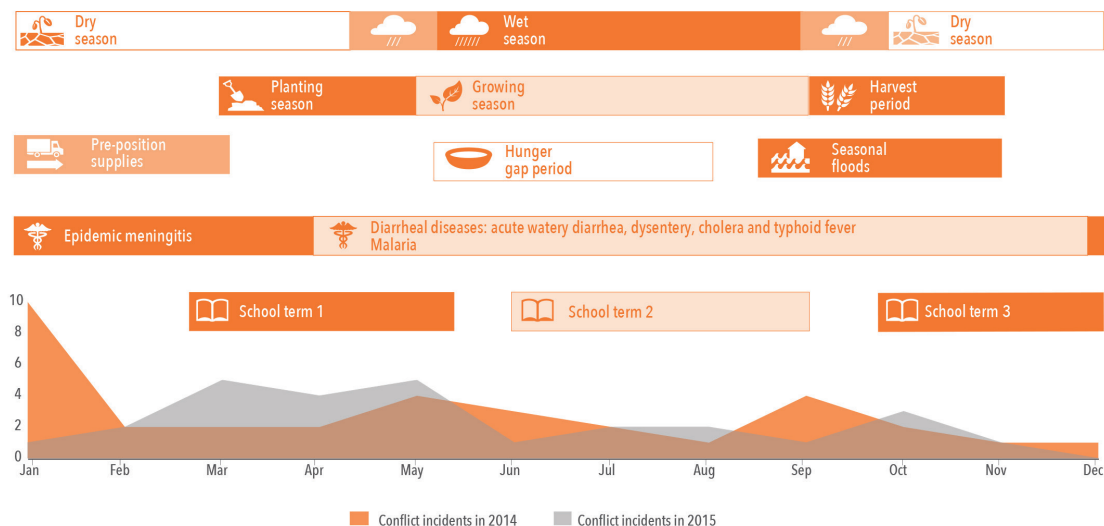
Although the impact of floods is often not directly addressed in many humanitarian responses in South Sudan, flooding still presents a real threat to the country. Jonglei, Unity, Upper Nile, and Warrap are the worst-affected states. Heavy rains and flooding increase the difficulties associated with accessing vulnerable populations, exacerbate their living conditions, and render the people even more susceptible to the spread of diseases, especially illnesses spread by mosquitoes and water-borne diseases. *Figure 1.4* shows the key seasonal events that impact food security, disease outbreaks, and education in relation to the respective school term.

15. According to an FAO communiqué (2016c), cereal prices have increased nearly five-fold in a year because of conflict and poor rains.

16. Household food security status is determined by three main dimensions: (i) food consumption based on dietary diversity and frequency; (ii) food access based on resources such as the income available for acquisition of a nutritious diet; and (iii) coping strategies derived from the frequency and severity of different coping strategies employed by households (Pape, 2014).

17. Global acute malnutrition (GAM) measures the nutritional status of a population and is one of the basic indicators for assessing the severity of a humanitarian crisis. The emergency threshold rate is set at 15%.

Figure 1.4. Key seasonal events



Source: OCHA, 2015c.

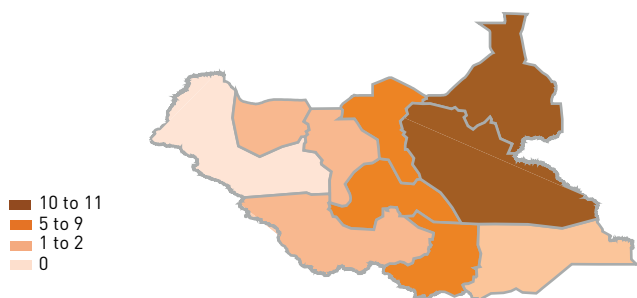
Box 1.1. Humanitarian response in South Sudan

As of December 2015, a total of 174 organizations (mostly non-governmental organizations [NGOs] and UNICEF) were involved in emergency programmes across South Sudan, 27 of which targeted education (OCHA, 2015b). Humanitarian education partners are concentrated in conflict-affected states (Jonglei, Unity, Upper Nile) and Lakes, while a large part of the country remains uncovered (Figure 1.5). There is a noticeable bias towards Central Equatoria, as the majority of organizations are based there, while states experiencing conflict have typically received more international support for all services including education.

Coordination between national and international education partners and government occurs at two levels: the initial project proposal stage and later during project coordination. Project funding is awarded based on proposals pre-selected by cluster coordinators and the Ministry of Education, Science, and Technology (MoEST), although the final selection is made by the UN Office for the Coordination of Humanitarian Affairs (OCHA). Programme coordination takes place through clusters organized at national, state, and county levels. At the national level, the education cluster (co-led by UNICEF and Save the Children) holds bi-weekly meetings to share situational reports on activities, achievements, and challenges. The government intervenes when activities are off-track. In addition to these national meetings, state-level meetings with NGO partners occur on a monthly or on a needs basis.

Coordination faces challenges due to a lack of essential information-sharing among partners. Not all partners abide by existing channels and report activities to the government, while others bypass local government and operate programmes with little or no oversight, undermining the development of government institutions. Information-sharing is hindered by poor communication (lack of internet and/or mobile network) between the state cluster and partners. In some cases, state clusters are not in a position to identify partners operating in their states and, thus, cannot ensure equitable distribution of resources to populations in need or prevent the duplication of services. Lastly, there are insufficient written reports from partners to track projects at the national level and a general lack of partner transparency.

Figure 1.5. Number of education partners across states, 2015



Source: OCHA, 2015b.

1.2 Demographic context

1.2.1 A fast-growing population in need of skills

The most recent national household census on which population figures and projections are based was carried out in 2008, three years prior to independence. As such, population figures are based on projections and do not reflect population movements in and out the country, and also do not take into account conflict-related deaths.¹⁸

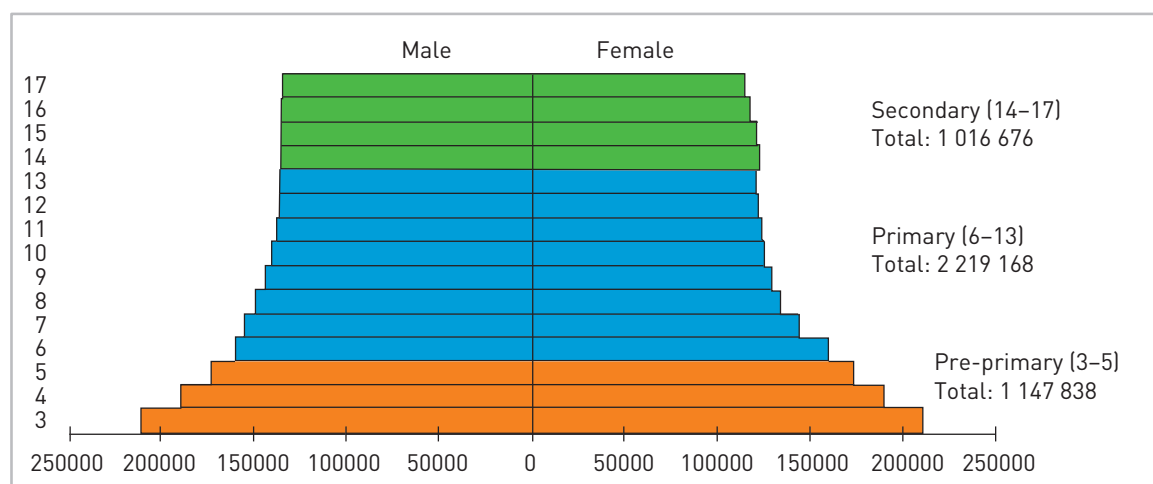
The South Sudanese population in 2008 was estimated at 8.4 million and was projected to reach 11.0 million in 2015 and 13.2 million¹⁹ by 2020 (NBS, 2014a; 2015). The population is relatively young and growing rapidly with an average growth rate of 4.0% for 2008–2015, estimated at 3.8% for 2015–2020.²⁰ As the population grows, the share of the working population will rise, with the dependency ratio projected to fall from 56.5 (2015) to 52.4 in 2030. This means that while hundreds of thousands of young people will be ready to work and contribute to growth and development, they will need adequate education, training, and opportunities (UNDP, 2015).

South Sudan is a largely rural society. The country has a low population density with an estimated 17 inhabitants per square kilometre in 2015, on a range from 4.8 (Western Bahr el Ghazal State) to 34 (Central Equatoria State) (see *Table A2* for a full breakdown per state). South Sudan has among the lowest urbanization rates at 19% in 2015, having increased by six percentage points over the past 24 years, placing it well below the sub-Saharan average of 37%.²¹ Low density and low urbanization coupled with high population growth are important indicators for education, as they can be used to plan the supply and organization of schools.

High population growth is putting pressure on the education system

The school-age population (3–17 years old) is set to grow by more than 1 million pupils over the next five years from 4.3 million children in 2015 (40% of the population) to an estimated 5.6 million in 2020. However, if UN projection growth rates are applied, the estimated number of school-age children reaches a more reasonable level of 4.9 million (see *Table 1.1*). Girls currently make up 48% of the school-age population, while primary school age children accounted for 51% (2.2 million) in 2015.

Figure 1.6. School-age population, 2015



Source: NBS smoothed population projection estimates (NBS, 2015) and UN growth rate estimates (UNPD, 2015), with authors' calculations.

18. The detailed breakdown of aggregate data that follows is drawn from census data; however, there are doubts attached to the accuracy of the enumeration process that produced them.

19. Applying the UNPD growth rate from 2015 to 2020 to the 2015 NBS population estimate, the total population will reach 12.6 million in 2020.

20. Estimates from the UN World Population Prospects differ. While the estimated population for 2008 is higher at 9.2 million people, growth rates are much lower for the coming years, estimated at 2.7% over 2015–2020 (while being similar for the 2008–2015 period at 4.3%). This has major implications for the number of children expected to enrol in school.

21. South Sudan is a rural society and will remain so for the decades to come. Urban population is projected to reach 34% in 2050, well below the expected world and regional averages (UN, 2014).

Table 1.1. School-age children population projections, 2015–2020 (in millions)

	2015	2016	2017	2018	2019	2020
With UN growth rates						
3–5 years	1 148	1 178	1 203	1 226	1 248	1 269
6–13 years	2 219	2 282	2 338	2 390	2 438	2 485
14–17 years	1 017	1 042	1 065	1 087	1 111	1 136
Total	4 384	4 502	4 607	4 703	4 796	4 890
With NBS growth rates						
3–5 years	1 148	1 261	1 386	1 498	1 580	1 634
6–13 years	2 219	2 302	2 415	2 564	2 752	2 976
14–17 years	1 017	1 022	1 025	1 028	1 034	1 047
Total	4 384	4 585	4 827	5 090	5 366	5 656

Sources: 2015 NBS smoothed population projection estimates and 2015–2020 NBS growth rate estimates (NBS, 2015); UN growth rate estimates (UNPD, 2015). Authors' calculations.

The education system will need to accommodate increasingly larger age cohorts. The many returnees (estimated at 140,000 in December 2015 according to the UN High Commissioner for Refugees, UNHCR) add to the demographic pressure and to the challenge of providing basic services of an acceptable quality to all. This challenge will need to be met in a context where the existing (and often inadequate) educational infrastructure has been seriously damaged by the persistent conflict.

1.3 Social development context

There is a dearth of data on social indicators. The last major surveys were the National Baseline Household Survey (NBHHS) conducted in 2009 by the National Bureau of Statistics (NBS), and the South Sudan Household Health Survey²² (SSHHS) conducted in 2010 by the Ministry of Health in collaboration with NBS and with the support of UNICEF (MoH, NBS, and UNICEF, 2013). Many of the indicators analysed in this study are drawn from these two surveys, with occasional additional sources. South Sudan is one of the least developed countries and has some of the worst indicators for health and human development of any country (Table 1.2).

Table 1.2. South Sudan social indicators, 2015 or most recent year

Indicator	Value
Population living below national poverty line, %	50.6
Urbanization rate, %	19.0
Literacy rate (15+), %	27.0
Fertility rate (number of children per woman)	5.0
HIV prevalence among adults (aged 15–49), %	2.5
Stunting among children (aged under 5), %	31.1
Under-5 mortality rate, ‰	92.6
Maternal mortality rate (per 100 000 live births)	789
Orphans and vulnerable children (aged 0–17 years old), %	17.2
Children (under 5) with birth certificates, %	35.0
Human Development Index (HDI), rank	169

Sources: Data on population living below national poverty line (2009) and the literacy rate (2009) are from NBHS, 2009. Data on the urbanization rate (2014) are from the 2014 World Urbanization Prospects report (UN, 2014). Data on literacy (2009) are based on the NBHS, 2009. Data on the fertility rate (2014) are from the World Bank website. Data on HIV prevalence among adults (2015) are from UNAIDS, 2016. Data on stunting among children (2010) are from the 2010 SSHHS (MoH, NBS, and UNICEF, 2013). Data on the under-5 mortality (2015) rate are from the UNICEF website (UNICEF, 2016). Data on the maternal mortality rate (2015) are from WHO *et al.*, 2015. Data on orphans and vulnerable children and children with birth certificates (2010) are from the 2010 SSHHS (MoH, NBS, and UNICEF, 2013). The HDI ranking (2010) is from UNDP, 2015.

22. Similar to a Multiple Indicator Cluster Survey (MICS). The next MICS is scheduled for 2016, pending national stability.

1.3.1 The population is overwhelmingly poor

In 2009, 51% of the population lived below the poverty line (NBS, 2012), although this number is likely to have risen since the December 2013 crisis. In addition to the national figure on poverty, the UNDP produces various poverty indicators based on household deprivation in education, health, and standard of living (*Table 1.3*).

Table 1.3. Share of the population facing multidimensional poverty, by poverty level, comparable countries, most recent year (%)

	Survey year	Poverty (%)	Near poverty (%)	Severe poverty (%)
South Sudan	2010	89.3	8.5	69.8
Uganda	2010	70.3	20.6	33.3
Rwanda	2010	70.8	17.9	34.6
Ethiopia	2011	88.2	6.7	67.0
Sierra Leone	2013	77.5	14.6	43.9
DRC	2013/2014	72.5	18.5	36.7
CAR	2010	76.3	15.7	48.5

Source: UNDP, 2015.

Note: Based on the 2010 SSHHS (MoH, NBS, and UNICEF, 2013). DRC = Democratic Republic of the Congo. CAR = Central African Republic.

In South Sudan, an overwhelming majority of the population (89.3%) are multi-dimensionally poor. Of these, 70% face severe multidimensional poverty. An additional 8.5% experienced near multidimensional poverty in 2010. South Sudan's level of poverty is worse than the sample of comparable countries, and this was the case even before the onset of the conflict (*Table 1.3*).

Most South Sudanese are illiterate

According to the NBHHS of 2009, only 27% of South Sudanese aged 15 years and above are literate. This figure is marked by wide gender disparities. For example, the literacy rate for males is 40% compared to 16% for females. The literacy rate remains poor among youth with 40% of 15–24-year-olds literate (55% for male and 28% for female),²³ highlighting the persistence of poor education opportunities (*Table 1.4*).

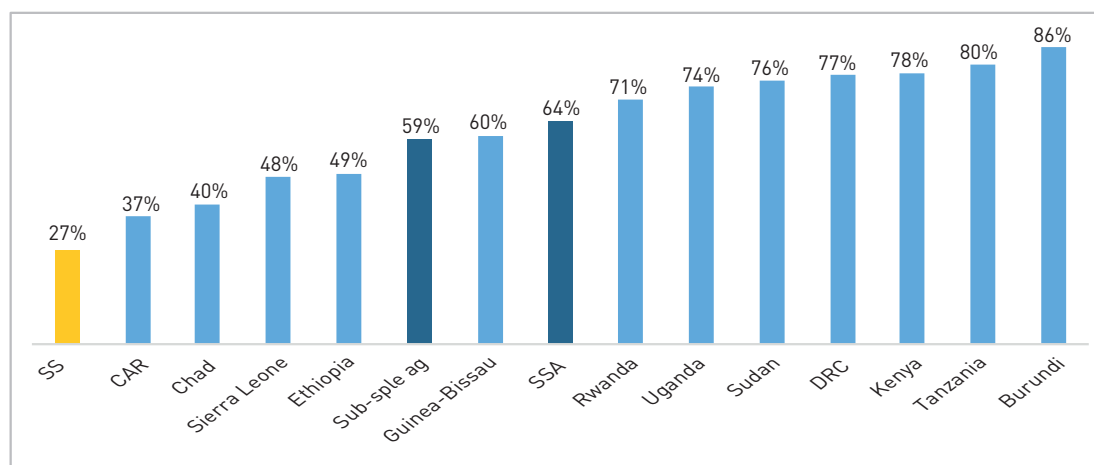
Table 1.4. Literacy rates, 2009 (%)

		Literacy rate for 15+ (%)	Literacy rate of 15–24-year-olds (%)
Place of residence	Urban	53.1	65.3
	Rural	22.0	34.6
Gender	Male	40.0	54.6
	Female	15.6	27.7
State	Upper Nile	45.5	65.1
	Jonglei	16.3	24.5
	Unity	26.0	43.6
	Warrap	16.2	27.2
	Northern Bahr el Ghazal	26.0	39.7
	Western Bahr el Ghazal	16.2	50.5
	Lakes	17.7	29.8
	Western Equatoria	33.0	42.6
	Central Equatoria	44.4	55.2
Eastern Equatoria	19.3	26.2	
National	South Sudan	27.2	40.3

Source: UNDP, 2015.

Note: Literacy rates are based on NBHHS 2009.

23. The 2010 SSHHS provides a much lower figure with only 13% of females aged 15–24 years literate (MoH, NBS, and UNICEF, 2013). The different protocol used to assess literacy might explain the observed gap.

Figure 1.7. Literacy rate for 15-year-olds and above, comparable countries, 2009 or most recent year (%)

Source: IIEP Pôle de Dakar, 2015.

Note: SS = South Sudan. SSA = sub-Saharan Africa.

South Sudan's literacy rate is the worst among comparable countries,²⁴ 10 percentage points below the second lowest, Central African Republic, at 37% literacy (see *Figure 1.7*). South Sudan is below the sub-sample average of 59% literacy and well below the sub-Saharan average literacy rate of 64%.

Illiteracy cannot be quickly eradicated as its root causes are a complex interplay of cultural, socio-economic, and educational factors. Adult literacy is critical not only for the ability for adults to be literate and numerate for their own personal benefit, but also because illiterate parents may not recognize the importance of encouraging their children to learn to read and count. This, in turn, can affect the demand for education. More generally, the literacy of mothers directly determines the survival, growth, and development prospects of their children.

Women have many children and start childbearing at a young age

The fertility rate in 2014 was five children per woman (World Bank website), lower than the sub-sample average of 6.75 and the sub-Saharan fertility rate of 6.4 children per women. One-third (31%) of women aged 15–19 had already begun child-bearing in 2010 (MoH, NBS, and UNICEF, 2013). In general, girls marry young²⁵ and soon begin child-bearing, and as a consequence of their family responsibilities, no longer attend school. Lower numbers of girls in schools lead to higher levels of female illiteracy and feed a cycle of illiteracy and associated problems.

The health status of the population is particularly poor

Childhood stunting is a condition defined as height-for-age below the fifth percentile on a reference growth curve. Stunting is a measure of a child's nutritional status and is an important indicator of the prevalence of chronic malnutrition or other nutrition-related disorders. A consequence of stunting is impaired cognitive development: when a child is malnourished, the body conserves energy by first limiting social activity and cognitive development. On average, around one-third of children aged under 5 were stunted in South Sudan in 2010 and 17% were severely stunted, with female or rural children slightly more likely to be stunted (MoH, NBS, and UNICEF, 2013).

In 2010, the under-5 mortality rate was estimated at 110.9 per 1,000 live births; in 2015 the figure dropped to 92.6 (UNICEF, 2015). This rate is among the worst when compared with similar countries and is below the sub-sample group average of 82. This indicates a poor overall quality health system. In rural areas, for example, access to a health care clinic can require up to half a day of walking. Low vaccination rates partly account for the high mortality rate of children aged under 5, as only 6.3% of children aged 12–23 months have received all their vaccinations (MoH, NBS, and UNICEF, 2013).

Malaria is widespread in South Sudan and is the primary cause of death. In 2013, the number of reported cases reached 262,520, while in 2015, there were an estimated at 1.8 million cases (WHO, 2016). The health issue posed by the disease is expected to have a considerable impact on the absenteeism of children and teachers from school, although no data are available at present.

24. Comparable countries were chosen based on two criteria: South Sudan's geographical neighbours and countries that have similar socio-economic situations and that have recently emerged from conflict (Chad, Sierra Leone).

25. According to the 2010 SSHHS, 40% of women aged 15–19 years were married or in a union in 2010 (MoH, NBS, and UNICEF, 2013).

UNAIDS data (2015) indicate that 2.5% of South Sudanese adults aged 15–49 years were infected with HIV/AIDS in 2015, providing an estimated figure of 875 infected teachers. This is lower than the sub-sample average of 2.8%, and considerably lower than the Eastern and Southern Africa average of 7.1% of people infected by the virus. HIV/AIDS can have multiple and negative impacts on education, affecting demand, supply, and the quality and management of teaching.

The number of children (aged up to 17 years) orphaned by AIDS was estimated at 100,000 in 2015 (UNAIDS, 2015). This is not a minor issue and the high prevalence of children living in fragile family settings is of particular concern. In 2010, 13% of children (aged under 18 years) were not living with a biological parent, and in the case of 17% of children one or both parents was deceased (MoH, NBS, and UNICEF, 2013). Although the practice of fostering can be associated with some schooling strategies (children move in with close relatives where no school is available in the vicinity of the family home), it is nevertheless usually associated with more fragile demand for schooling. This is confirmed by the data: for every 100 non-orphans (aged 10–14 years) enrolled in school, there are 78 orphan children. It should also be noted that only 35.4% of children had a birth certificate in 2010 (MoH, NBS, and UNICEF, 2013).

Human development is particularly low with conflict resulting in major losses

South Sudan's Human Development Index (HDI) ranking in 2014²⁶ placed the country 169th out of 187 (Table 1.5). Compared with neighbouring and post-conflict countries, South Sudan ranks behind Uganda and Rwanda (163), but ahead of Ethiopia, the Democratic Republic of the Congo (DRC), Sierra Leone, and Central African Republic (CAR). According to UNDP, the ongoing conflict was the factor accounting for the most serious loss in human development, significantly more than gender disparities or inequalities (UNDP, 2015). The armed conflict is resulting in large welfare costs for the population, particularly the poor. South Sudan has also had a very long history of instability, which has invariably affected the provision of basic service delivery and the quality of human resources.

Table 1.5. Human Development Index, South Sudan and comparable countries, 2014

	HDI value	HDI rank
South Sudan	0.467	169
Uganda	0.483	163
Rwanda	0.483	163
Ethiopia	0.442	174
DRC	0.433	176
Sierra Leone	0.413	181
Chad	0.392	185
Central African Republic	0.350	187
Sub-Saharan Africa	0.518	–

Source: UNDP, 2015.

1.4 Macroeconomic performance and outlook

South Sudan's economy is traditionally less developed than that of Sudan, and in the wake of achieving statehood South Sudan committed itself to an ambitious and detailed development plan, the South Sudan Development Plan (SSDP) (GoSS, 2011), whose major objectives were outlined in the Vision 2040. The crisis of December 2013 and subsequent economic difficulties delayed implementation of major reforms, and while economic growth picked after the CPA (2005), it has been in steady decline since independence (2011).

1.4.1 GDP growth

GDP has deteriorated since independence in 2011 ...

Since independence in 2011, South Sudan has faced a series of internal and external shocks that have negatively affected the country's economic outlook. Over the 2011–2015 period, the nominal GDP decreased from SSP53.3 billion to SSP43.7 billion, at an annual average nominal growth rate of 5% (Table 1.6). Deterioration is even more pronounced

26. The Human Development Index (HDI) is a composite index used to measure countries' progress beyond their economic development: the higher the value, the better the level of development. The HDI combines indicators on life expectancy, education, and national income per capita.

in real terms. Following relatively high levels of inflation, real annual GDP growth steadily decreased following independence at an average annual rate of 9%, from SSP59 billion in 2011 to SSP42 billion in 2015.

The evolution of GDP has been erratic overall. In 2012, the country witnessed a dramatic drop in real GDP of more than 46%, from SSP59.1 billion in 2011 to SSP31.9 billion, in 2014 constant prices. This decrease was due to a halt in oil production in early 2012 caused by a failure to agree on the level of financial transfers to be paid by the South Sudanese government to the Sudanese government to transport oil through their pipeline. Production only restarted in April 2013 after an entire year of stoppage. While lost ground was regained in 2013 in real terms, subsequent years have not seen a return to the GDP value of 2011, with the level in 2015 representing a value almost 30% lower. A negative factor affecting output value was the sharp drop in international oil prices, from about \$110 per barrel in early 2011 to below \$37 in December 2015 and to \$34.7 in January 2016.²⁷

Positive economic prospects were expected following independence in 2011, however over-reliance on oil exports has increased the country's vulnerability to events that disrupt production. The crisis that erupted in December 2013 resulted in the closure of oil fields in Unity, with production currently active only in Upper Nile State. In addition, some oil infrastructure has been damaged. Overall, the conflict is estimated to have cost up to 15% of GDP for 2014 (World Bank, 2016).

... heavily affecting the population

The general situation has seriously deteriorated with prolonged disruptions in oil production, a sharp decline in international oil prices, and continued under-investment in agriculture and industry. The cumulative effects of these shocks are staggering: GDP per capita has fallen from SSP6,292 or \$2,126 in 2011 to SSP3,722 or \$1,257 (in constant 2014 prices). This 70% drop represents a substantial decline in living standards across the population. Using the unofficial rate of SSP13.98 per dollar, the per capita GDP was approximately \$266 in 2015 as opposed to \$1,257 at the official rate (in 2014 prices).²⁸

Table 1.6. Key macroeconomic indicators trend, 2009–2014, estimates 2015–2018

	2009	2011	2012	2013	2014	2015*	2016*	2017*	2018*	2011–2015 growth	
										Total	Annual
Gross domestic product											
Current prices (SSP billion)	28.3†	53.3	30.7	35.3	41.9	43.7	86.5	157.2	180.6	82%	-5%
Constant prices (SSP billion, 2014)	58.8	59.1	31.9	36.2	41.9	40.9	37.7	40.8	43.8	69%	-9%
Annual changes	N/A	-5%	-46%	14%	16%	-2%	-8%	8%	7%	-	-
Current prices (\$ billion)	12.5	18.0	10.4	11.9	14.2	14.7	5.2	5.6	6.0	82%	-5%
Per capita gross domestic product											
Current prices (SSP)	3 259	5 675	3 134	3 466	3 959	3 969	7 573	13 244	14 656	70%	-9%
Constant prices (SSP, 2014)	6 774	6 292	3 256	3 552	3 959	3 722	3 303	3 441	3 552	59%	-12%
Annual changes	N/A	N/A	-48.3%	9.1%	11.5%	-6.0%	-11.3%	4.2%	3.2%	-	-
Current prices (\$ – official rate)	1 442	1 917	1 059	1 171	1 338	1 341	456	471	489	70%	-9%
Constant prices (\$ – official rate)	2 997	2 126	1 100	1 200	1 338	1 257	199	122	118	59%	-12%
Other indicators											
GDP deflator (basis 2014)	48	90	96	98	100	107	229	385	413	118%	4%
Inflation rate**	N/A	N/A	45.1%	-0.03%	1.7%	52.8%	212.4%	21.6%	17.8%	-	-
Exchange rate (SSP/\$)											
SSP to the \$ – official rate	22.26	2.96	2.96	2.96	2.96	2.96	16.62	28.15	30.00	100%	0%
SSP to the \$ (parallel rate)	N/A	2.96	4.49	4.25	4.67	13.98	N/A	N/A	N/A	472%	47%
Total population (millions)	8.68	9.39	9.78	10.18	10.59	11.00	11.43	11.87	12.32	117%	4%

Sources: MoFEP for 2009–2014 macroeconomic data; MoFEP 2016a; IMF (2016) for 2015–2018 data.

Note: *2015–2018 figures are projections. **Average consumer price index, IMF data for the whole series. Population from NBS (2014a; 2015). †World Bank, 2012.

27. South Sudan's Dar blend barrel faces a \$10 discount against the Brent barrel, being of lower quality. In addition, transit fees per barrel amount to \$24.1, making production of oil quasi non-profitable at such low barrel values.

28. As a consequence, the World Bank demoted South Sudan from the group of lower middle-income countries to that of low-income countries in its most recent classification of countries (1 July 2015).

South Sudan suffers from numerous structural constraints to growth, which are further exacerbated by the conflict

The economy of South Sudan is relatively undiversified and limited by a small market with structural difficulties, affecting transportation, energy, and general infrastructure. The economy is heavily dependent on oil, which accounts for almost the totality of exports and close to 60% of GDP. About 15% of GDP comes from subsistence agriculture and livestock, while 85% of the working population is engaged in non-wage, low productivity work (78% in agriculture) (World Bank, 2016). There is virtually no manufacturing industry and practically all intermediate and consumer goods are imported. The only modern industrial sector is the oil industry in which foreign (mostly Chinese, Indian, and Malaysian) investors dominate. All oil produced is exported.

Fostering growth and development will require a gradual shift from low-productivity agriculture to value-added industry and service activities, a progressive reduction in the size of the informal sector, and massive investments in economic and physical infrastructure, among others. Opportunities exist to develop value chains that create jobs and improve household income, in particular linked to gum acacia (also known as gum arabic), shea nuts, and substantial herds of cattle and reserves of fish (Nkamleu and Mugisha, 2016).

Overall, South Sudan's economy remains fragile, with persistent domestic structural weaknesses in governance, service delivery, and physical and economic infrastructure, not to mention the lingering conflict, representing major impediments to growth. The majority of economic and social development indicators are among the worst in the world as a consequence of neglect by the former authorities prior to independence, institutional weaknesses, and political instability. The outlook for economic growth depends largely on a recovery in global oil prices and a comprehensive resolution to the civil conflict, rather than a mere cessation of hostilities.

1.4.2 Government revenue and expenditure²⁹

South Sudan's dependence on oil revenues renders government finances highly unpredictable from year to year. Leaving aside borrowing and lending, government revenues comprise domestic resources obtained from oil and non-oil revenues and external funding obtained through grants. *Table 1.7* presents details of these resources for the first four years of the country's existence, using 2009 as baseline.

Table 1.7. Trend in revenues and expenditures, 2009–2014/2015 (as a % of GDP)

	2009	2011/2012	2012/2013	2013/2014	2014/2015
Revenues	15.0	24.3	3.9	28.5	19.4
Domestic revenues	15.0	24.3	3.9	28.5	19.2
Oil revenue	14.6	23.5	1.1	26.0	15.9
Non-oil revenue	0.4	0.7	2.8	2.5	3.3
Share of oil	97	97	29	91	98
Grants from donors	0.0	0.0	0.0	0.0	0.2
Reserves and borrowing	0.0	0.0	17.2	14.6	0.0
Expenditures	15.0	24.2	20.7	23.5	27.6
Overall balance	0.0	0.1	0.5	19.6	-8.3

Sources: MoFEP, 2011–2015; 2016a. See *Table A3* for detailed data.

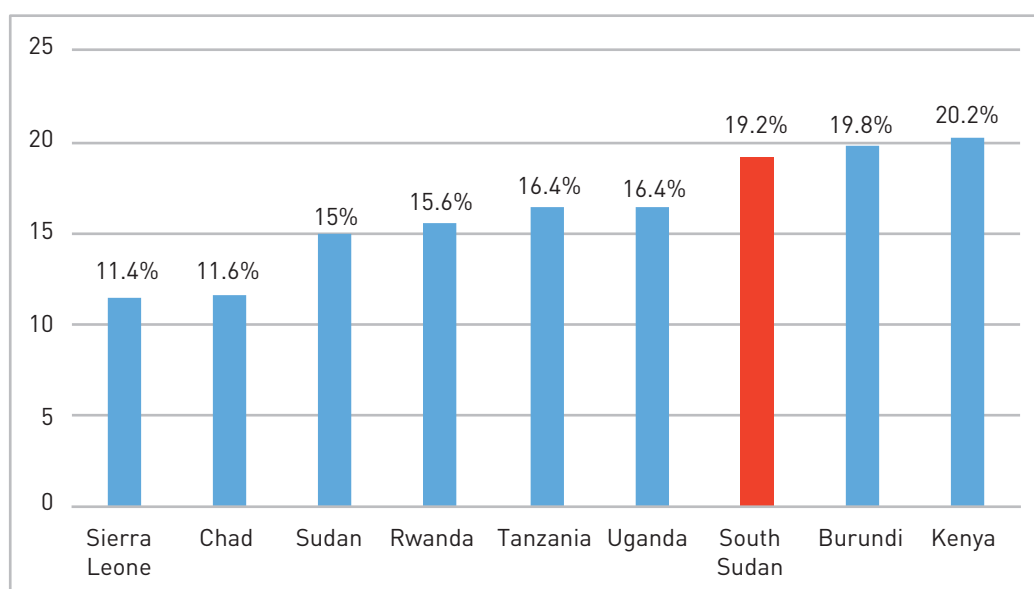
Government resources as a proportion of GDP have demonstrated a seesaw trend. In 2009, 15% of GDP was made available for government, rising in 2011/2012 to 24.3%. This proportion fell dramatically to 3.9% in 2012/2013 (the year oil production ceased) before increasing again to 28.5% in 2013/2014; it then dropped again in 2014/2015 to 19.2% following the decrease in oil prices and cut in production. The amount of government domestic resources in 2014/2015 reached SSP7.83 billion in 2013/2014 constant prices, 26% below the level reached in 2011/2012 of SSP10.8 billion (in 2013/2014 prices) (see *Table A4*).

29. The analysis is based on outturns. As far as 2014/2015 is concerned, some inconsistencies in data could be recorded. More time would be required to ensure stabilization of the figures.

High dependency on oil for revenue generation (above 90%) and the volatility and unpredictability of oil prices constitute major challenges to income generation.³⁰ Prior to the conflict, the government initiated a number of reforms to increase resource mobilization: the 2012 Petroleum Revenue Management Bill was designed to promote more credible management of oil revenues, and the Taxation Amendment Act of 2012 aims to help increase non-oil tax revenues via improved efficiency of collection, with a view to diversifying revenue sources. However, their fate depends on peaceful resolution of the conflict.

Nevertheless, this contribution base compares favourably with that of comparable countries (see *Figure 1.6*). Sierra Leone and Chad appear to have the lowest base at around 11%, followed by Sudan and Rwanda at around 15%, Tanzania and Uganda at around 16%, and finally Burundi and Kenya at around 20%, just above South Sudan.

Figure 1.8. Government domestic resources as a percentage of GDP, 2015 or most recent year (%)



Sources: Table 1.5; IIEP Pôle de Dakar, 2015.

South Sudan's 2014/2015 rate appears favourable compared with those levels. This is explained by improvements to the tax management systems and the concentration of economic activity in oil production, a type of activity much easier to monitor than the vast diversity of non-formal economic activity in the other countries.

Expenditures are sustained by borrowing from the central bank³¹

South Sudan's budget has recorded little variation in structure since independence. The largest expenditure remains security, which rose in weight over the period from 33% of the budget in 2011/2012 to 47% in 2014/2015. Rule of law represents the next highest expenditure at 12% in 2014/2015. Expenditures in 2015 focused mainly on security, with rule of law and security accounting for 59% of allocated spending, while basic services and infrastructure received between 1 and 5%.

The country depends heavily on imports for both commodities and inputs to some manufactured goods. While certain austerity measures were undertaken following the drop in government revenues in 2012, the government sustained expenditures to maintain service delivery to the people and increased security spending due to the ongoing conflict. This further reduced the availability of resources for service delivery and capital spending on much needed infrastructure. Indeed, capital expenditure has been the most affected component of the budget, as it is easier to cut investment spending than reduce salary payments in the face of temporary shortfalls. This trend is unfortunate as the need for investment in better infrastructure in all sectors is overwhelming in South Sudan. Decades of war and neglect have left the country in almost total destitution as regards road networks, energy, utilities, and social infrastructure, among other facilities. Once peaceful conditions are restored, delivery of social services and infrastructure investment should become future budget priorities.

30. In addition, on current reserve estimates oil production is expected to reduce steadily in future years and become negligible by 2035 (World Bank, 2016).

31. Data on government expenditure are possibly underestimated. The IMF staff mission report of December 2014 noted that 'extra-budgetary expenditures remain significant' and considered this a key issue (IMF, 2014).

Table 1.8. Distribution of budget by ministry, outturns, 2009–2014/2015

	2009	2010	2011/2012	2012/2013	2013/2014	2014/2015
Accountability	7.8%	9.6%	4.5%	13.5%	3.8%	5.0%
Economic functions	2.4%	3.4%	2.0%	2.3%	2.0%	5.0%
Education	5.5%	5.0%	4.4%	5.4%	4.4%	4.6%
Health	2.3%	2.5%	2.0%	1.9%	1.7%	2.2%
Infrastructure	12.1%	10.8%	10.0%	6.2%	4.4%	1.6%
Natural resources and rural development	4.2%	3.3%	3.5%	3.4%	0.7%	2.6%
Public administration	8.1%	15.1%	13.7%	9.5%	10.1%	11.0%
Rule of law	12.5%	11.9%	12.1%	15.4%	13.4%	12.0%
Security	33.3%	27.2%	37.5%	41.8%	40.8%	47.3%
Social and humanitarian affairs	0.9%	1.3%	1.4%	0.5%	0.6%	0.5%
Block transfers to states	10.4%	9.7%	8.7%	0.0%	10.6%	8.2%
Total budget	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total budget (SSP million)	4 235	5 576	10 142	6 813	9 069	12 211

Source: MoFEP, 2011–2015; 2016a.

Table 1.9. Structure of spending 2009–2014/2015 (%)

Expenditures	2009	2010	2011/2012	2012/2013	2013/2014	2014/2015
Salaries	47	40	37	47	40	48
Operating	30	41	22	19	21	22
Capital	24	20	18	9	17	4
Transfers	0	0	19	24	19	22
Other	0	0	4	1	4	4
Total	100	100	100	100	100	100

Source: MoFEP, 2011–2015; 2016a. Based on outturns.

To cover expenses and the related deficit, the government has relied on borrowing from the Bank of South Sudan and the accumulation of arrears. This has fuelled high inflation resulting in a significant decline in the dollar value of the SSP (*Box 1.2*). South Sudan does not have large structural deficits and the government has no debt sustainability issue, although it may soon experience debt-servicing problems (Nkamleu and Mugisha, 2016). In 2014, the International Monetary Fund (IMF) estimated the debt/GDP ratio at 20% and projected a rise in 2015 to 57% followed by a steady decrease. Given that this debt has accumulated in the four years since independence (the country had zero debt in 2011), this raises questions about the overall sustainability of this pattern. Although significantly higher debt-to-GDP ratios can be sustained in different contexts, this seems not to apply to South Sudan. The country's ability to borrow commercially is very limited and the situation has been exacerbated by conflict and the fall in oil revenues. Moreover, South Sudan is reported to have borrowed directly from international oil companies. Accessing this kind of finance will become more difficult as oil revenues stagnate. As such, this short-term, high-cost method of borrowing makes this approach an unlikely candidate for sustainably addressing South Sudan's borrowing needs.

Box 1.2. Rapid deterioration of macroeconomic indicators is undermining economic stability and potentially leading to a major humanitarian crisis

The second half of 2015 and the first quarter of 2016 saw a continuation and escalation of the economic crisis. In addition to the conflict, which disrupted and partially destroyed oil and agricultural production and increased the government deficit, the global price of oil fell substantially leading to a major plunge in domestic revenues and foreign exchange, and strong depreciation and inflation of the SSP. This had a rapid negative effect on major macroeconomic indicators with GDP estimated to have dropped by around 7% in fiscal year (FY) 2015/2016. The present situation is undermining economic stability and ultimately harming the South Sudanese, who have experienced a rapid deterioration in purchasing power and standard of living, with many now living on the verge of subsistence and requiring humanitarian assistance to survive.

Following the rapid deterioration in macro indicators, the government took action to address the economic crisis by implementing exchange reforms on 16 December 2015. The previous peg of \$/SSP2.96 was abandoned to let the SSP float. The central bank has maintained a fixed peg to the US dollar since the introduction of the SSP at independence; however, it has been unable to supply adequate foreign exchange at the official rate following the drop in oil revenues. This has led to the emergence of a large parallel currency market and depreciation of the SSP over the second semester of 2015. In early July 2015, the \$/SSP was 11.95, rising to 16.05 in October and 18.75 by mid-December.

It was hoped that the exchange rate reform would substantially increase the SSP value of revenues from oil and non-oil, thereby reducing the government's deficit and helping to address the economic crisis. However, gross oil revenues have since collapsed, following a further drop in oil prices in December 2015 and January 2016 and in production. This rapidly reduced the supply of the dollar with a further depreciating effect on the currency. By mid-March 2016, the dollar was being exchanged at SSP35. This also coincided with the removal of fuel subsidies and an increase in taxes levied on imported goods following the depreciation of the SSP against the dollar, which has fuelled inflation.* Monthly inflation in January 2016 was 24% and 18% in February. Through-the-year inflation is estimated at 163% for January and 203% for February.

The plunge in dollar revenues has led to very low levels of foreign exchange which are negatively affecting imports, in particular food imports. Given the high reliance on imports for most consumption goods including food, especially in urban areas, this could have a marked impact on consumption, leading to increased levels of poverty and hunger, especially during the 'lean season' between April and October. The toll on households is heavy, with the monthly salary of Grade 14 teachers now estimated at \$11 (18 March 2016). In addition, a major drought affected many parts of the country in early 2016, placing an estimated 2.8 million South Sudanese under severe food stress and in need of urgent humanitarian assistance (FAO, 2016b). The decline in revenues has also necessitated austere fiscal adjustments on the part of the government, leading to major delays in salary payments for civil servants.

To address these macroeconomic challenges, MoFEP proposes a three-pronged strategy: (i) increased domestic revenues through the creation of an improved tax base and tax collection procedure combined with increased oil production; (ii) reduction in government expenditure limited to essential spending; and (iii) mobilization of external support. It is believed that the formulation of the TGNU should lead to the resumption of talks with the IMF, and that this strategy, along with the implementation of prudent policies, will help to create trust in the government and foster the mobilization of external support. This will be essential as implementation of the 2015 Peace Agreement will necessitate spending in a variety of areas including the demobilization of soldiers and the relocation of IDPs.

Source: MoFEP, 2016b.

Note: *The main determinant of inflation over the long term is money supply (i.e. the total amount of domestic currency). In South Sudan, increase in money supply has been driven primarily by increased government borrowing from the Bank of South Sudan to finance the deficit (MoFEP, 2016b).

1.5 External funding

As a conflict-affected and globally poor state, South Sudan receives a significant amount of international aid, most of it humanitarian. Government record-keeping of international funding for off-budget projects is improving, but was not systematic during the period under consideration. Donors often choose not to report their expenditures to the government and instead fund education directly, either through infrastructure or capacity building. Although they

work with local governments to implement these processes, the financial allocations are consistently under-reported, if reported at all. Data for 2014/2015 are based on information provided by development partners and consolidated using the Interim Aid Information Management System (AIMS) (MoFEP, 2016c). Data on humanitarian funds were obtained from the OCHA Financial Tracking Service (FTS).

1.5.1 Donor funding

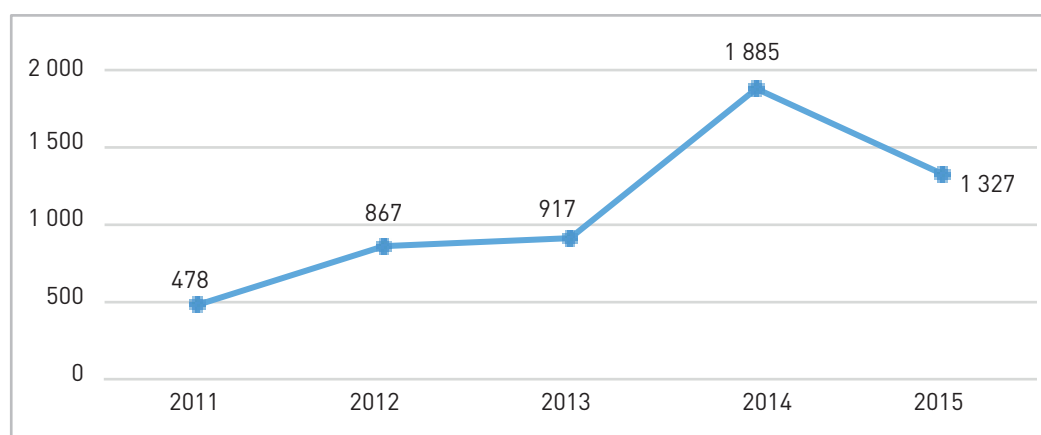
Aid from the international community plays an important role in supporting national efforts in the implementation of both development and humanitarian activities. For FY 2014/2015, Government of South Sudan (GoSS) spending was \$2,145 million (excluding the security sector), compared with development partners' (DPs') reported development disbursements of \$605 million, or \$2,243 million if the \$1,637 million on humanitarian spending is included. If GoSS spending on the security sector and UNMISS spending are added to each side, the 'national' total for 2014/2015 of \$3,992 million is almost identical to total DP spending of \$3,880 million for the same period (MoFEP, 2016c).

In total, 21 DPs provided resources for development projects in 2014/2015, comprising 11 bilateral partners and 10 multilaterals. The United States was by far the largest provider, accounting for 30% of total financing, followed by the United Kingdom, the World Bank, the China EXIM Bank, and the European Union. These top five DPs accounted for almost two-thirds (64%) of total financing. Eleven DPs provided under \$20 million, highlighting the fragmented nature of aid and the ensuing high transaction costs for the GoSS. It should be noted that there is presently no functioning formal process of alignment: the government is not always involved in the delivery of services, and aid is not aligned with the government budget process (MoFEP, 2016c).

1.5.2 Funding for emergencies

Major humanitarian funding to South Sudan ramped up in 2013 following renewed conflict, and has since shifted away from development aid towards humanitarian responses. In 2011, the country received \$478 million in aid. By 2014, the amount had spiked to \$1,885 million before dropping to \$1,327 million in 2015, a figure that nevertheless corresponds to a three-fold increase on 2011.

Figure 1.9. Humanitarian funding trend, 2011–2015 (in current \$ million)



Source: OCHA, 2015d. Authors' computations.

Over the last five years, the United States, the United Kingdom, and the European Commission were the top donors, with Japan, Canada, Sweden, Denmark, Norway, Germany, and private donors (individuals and organizations) also accounting for large contributions. From 2011 to 2015, funding from the United States made up the largest share of total humanitarian funding, with proportions ranging from 28.1% in 2012 and 2013 to 42.8% in 2014 (see *Figure A1*).

As shown above, the political crisis has coincided with a huge exogenous macroeconomic shock associated with the worldwide decline in oil prices. The huge and almost instant reduction in government revenue means additional external support will be required as the GoSS struggles to finance its basic expenditures. The impact of the crisis on development and humanitarian-oriented DPs will persist for several years. Moreover, the current situation indicates that the humanitarian crisis will continue to demand increased resources. While many ongoing development projects have not been halted by the crisis, most will likely need substantial alteration to take into account the new priorities brought about by the changed context (MoFEP, 2016b).

1.6 Key results

The political context has remained unstable for many years in the aftermath of two long and bloody civil wars that lasted from 1955 to 2005. Independence heralded an era of southern autonomy but South Sudan quickly fell into its own civil war in December 2013, which ended in 2015 with a peace agreement that both sides of the conflict have since failed to implement.

Chronic instability has led to a widespread humanitarian crisis resulting in population movement on a massive scale and the destruction of important national infrastructure, and has also compounded a number of other risks that affect the population as a whole. Since the outbreak of the conflict in December 2013, tens of thousands of civilians have died and countless more have been injured. About 2.3 million people have been displaced, 1.66 million internally (of whom 53.4% are children), while 645,000 have fled to neighbouring countries. The country is also hosting 267,500 refugees from neighbouring countries also facing conflict.

War uproots individuals and families from their homes and occupations and disrupts social systems supporting health and education. Those who flee often end up in overcrowded spaces prone to increased risk of infectious disease outbreaks. Conflict has affected the ability of farmers in key agricultural regions to access their crops when not destroyed, resulting in chronic and widespread food insecurity and malnutrition.

The **Greater Upper Nile region has been most heavily affected by the recent conflict** and the local population is subject to the highest level of risk.

Demographic pressure is high with a fertility rate of 5% and a growth rate of 4% for 2008–2015. However, population density is low at 17 inhabitants per square kilometre. The school-age population is set to grow by half a million pupils over the next five years, which will impose a heavy burden on the education system.

South Sudan has among the worst social indicators in sub-Saharan Africa and a globally non-favourable socio-economic context for education. In 2008, half the population (51%) lived below the poverty line, a figure that now underestimates the present level of poverty given the rapid deterioration in the socio-economic situation. Only 27% of adults aged 15 and above are literate.

The health status of the country is particularly poor. Women begin child-bearing at a young age, the under-5 mortality rate is 92.6 per 1,000 births, and around one-third of children aged under 5 in South Sudan are stunted. Malaria is widespread and HIV/AIDS is estimated to affect 2.5% of the population, including 875 teachers.

South Sudan's GDP has been badly hit by the interruption of oil production in 2012 and the renewal of conflict in late 2013. The present conflict has had a significant financial impact on South Sudan with GDP for 2014 15% lower than projected. In addition, the country suffers from numerous structural constraints to growth following decades of under-investment in institutions and infrastructure.

GDP per capita has deteriorated rapidly and is reaching alarmingly low levels. GDP per capita fell from SSP6,292 or \$2,126 in 2011 (in constant 2014 prices) to SSP3,722 or \$1,257 (in 2014 prices) in 2015 – a drop of 70%. Using the unofficial rate (of SSP13.98 per dollar), the per capita GDP was approximately \$266 in 2015 as opposed to \$1,257 at the official rate.

Government revenues are still highly dependent on oil revenues, which have been unstable since independence following a dispute over transit fees with Sudan, the closure of one of South Sudan's two oil fields during and after the December 2013 conflict, and the drop in oil prices on the international market.

Government expenditures have prioritized security since independence to the detriment of infrastructure and social services.

Rampant inflation and depression of the SSP vis-à-vis the dollar in 2015 have eroded purchasing power, led to a major economic crisis and the deterioration of development gains achieved since independence, and worsened the humanitarian situation.

There is a strong humanitarian presence in South Sudan with more than 174 organizations involved in emergency programmes across the country, 27 of which address education, mainly in conflict-affected regions. While links exist between government and partners implementing programmes, coordination is difficult and lacks transparency.

Development and humanitarian aid plays an important role in supporting national efforts, accounting for half of total resources available in the country. Following the outbreak of violence in late 2013, humanitarian funding has increased, shifting away from development aid towards humanitarian responses. The current situation indicates that the humanitarian crisis will continue to demand increased resources. It is important to ensure that this does not undermine future investments in development areas. Efforts to bridge the humanitarian development divide by making certain development and humanitarian actors work in a manner that reinforces complementarity, coherence, and sustainable development solutions will prove decisive.

2. Schooling patterns

Education policies in fragile African states have a strong focus on achieving universal basic education and, to a lesser extent, on facilitating the quantitative and qualitative development of other education sub-sectors in response to countries' needs and financial capacities. This chapter takes a detailed look at the expansion of schooling and the structure of student flows, with a view to assessing the achievements of South Sudan since 2008. It also attempts to identify the main issues in dealing with student access to and progression through the education system. It presents an analysis of supply and demand that examines causes of dropout and non-attendance, and relies on quantitative indicators at both national and state levels. Equity issues such as disparities by gender and location³² and risks are highlighted throughout the analysis wherever possible and relevant.³³

2.1 Structure of the education system

The main documents driving education development in South Sudan are the General Education Act of 2012, the General Education Strategic Plan (2012–2017), and the draft General Education Policy Framework (2015). In addition, the New Transformation Agenda (NTA) 2015–2025 focuses on key strategic and specific objectives regarding general education with a view to promoting an education system that is inclusive, relevant and sustainable. The underlying vision of South Sudan is 'to build an educated and informed nation by 2040' (MoEST, 2015c). Indeed, the education sector vision as relayed in the General Education Policy Framework is tailored towards building 'an educated and informed nation by providing quality Education for all' that is accessible and equitable, of good quality, and relevant. To achieve this, the Ministry of Education, Science, and Technology (MoEST) will develop effective and implementable programmes to enable learners to acquire the necessary knowledge, skills, and attitudes to compete in the labour market, both nationally and internationally, regardless of gender, religious affiliation, disability vulnerability, political affiliations, cultural background, age, race or ethnicity.

Provision of education in South Sudan falls under MoEST³⁴ and is organized into two departments: General Education and Higher Education. The former consists of various sub-sectors:

- Pre-primary,
- Primary,
- Secondary,
- Alternative education system (AES) including literacy programmes,
- Teacher training, and
- Technical and vocational education and training (TVET).

Pre-primary education is characterized by a theoretical entrance age of 3 and a duration of three years. The objective of this programme is to contribute to children's physical, cognitive, emotional, and social development, and to prepare them for primary school.

Primary education generally starts at age 6 and lasts for eight years. At the end of the cycle, pupils are required to pass the Primary Leaving Exam (PLE) to proceed to secondary education. According to the General Education Act of 2012, 'primary education shall be free and accessible to all citizens in South Sudan, without discrimination on the basis of sex, race, and ethnicity, health status including HIV/AIDS, gender and disability'.

Secondary education lasts four years under the new South Sudanese curriculum. It is validated by the secondary School Certificate Exam (SCE), which is required to enter tertiary education.

Tertiary education consists of: (i) universities leading to either a diploma or a bachelor's or master's degree; and (ii) teacher training institutes (TTIs), which lead to a teacher training certificate.

The alternative education system (AES) offers a variety of learning programmes targeted at children and adults who have either never attended formal education or who attended school but dropped out early. AES flagship programmes include the Accelerated Learning Programme (ALP) and the Community-based Girls Schools (CGS). They consist of non-formal, fast-track, basic education programmes aimed at bringing teenagers and young adults back to school.³⁵ Other programmes include the Basic Adult Literacy Programme (BALP) aimed at youth and adults, the Intensive

32. Analysis of socio-economic status could not be performed because of a lack of data (i.e. recent household surveys).

33. Most analyses are based on EMIS soft databases, the former ESA (World Bank, 2012), and reports produced by the GESS programme with research by Forcier Consulting. See *Annex 1* for a quick overview of data quality.

34. With the formation of the Transitional Government for National Unity (TGNU) in April 2016, MoEST split into the Ministry for General Education and Instruction (MoGEI) and the Ministry of Higher Education and Science and Technology (MoHEST).

35. The ALP consists of a condensed primary four-year programme that allows students to sit the primary school leaving examination, while the CGS programme consists of a three-year programme that allows students to enrol in primary Grade 5.

English Course (IEC), which facilitates transition from Arabic to English instruction, and the Pastoralist Education Programme (PEP), which is based on flexible mobile schools.

Technical and vocational education and training (TVET) offers a variety of programmes and certificates at post-primary level, usually targeting older youth. While MoEST is responsible for technical education, vocational aspects are shared among a variety of ministries, including MoEST, the Ministry of Culture, Youth, and Sport (MoCYS), and the Ministry of Labour and Public Service (MoLPS).

Education management falls under the control of MoEST at the central and state level. While pre-primary, primary, and AES education are handled by state ministries of education (SMoEST), secondary education falls under the control of the central MoEST, as is the case with teacher education, TVET, and higher education.

2.2 Enrolment analysis

This section provides an overview of the number of students enrolled in each level of education from pre-primary to tertiary, including recent trends. It also examines student enrolment in relation to the target population.

2.2.1 Enrolment trends

Enrolment analyses rely on Education Management Information System (EMIS) data. Major insecurity in the Greater Upper Nile³⁶ states (GUPN) in 2015 meant that many counties and schools could not be reached. As such, school coverage of GUPN states for 2015 is very limited. There was no coverage for 10 out of 12 counties in Upper Nile and five out of nine counties in Unity (see *Table A5*). In addition, counties that were covered exhibited lower levels of reporting, with under-reporting three times more prevalent in high-risk counties than in low-risk counties.³⁷ However, it is difficult to discern whether or not schools are indeed closed or have simply neglected to report back. Nevertheless, the fact that schools could not be reached following insecurity implies major school disruptions and possibly closure, in line with UNICEF's statement that 70% of schools in GUPN states were non-functional as of May 2015 (UNICEF ESARO, 2015).

The following analyses depict the evolution of enrolment by sector, including and excluding the GUPN states, in order to better grasp the dynamic of schooling in conflict and non-conflict areas and to assess how the conflict is affecting schooling.

Enrolment has increased in most sectors, but has been seriously impacted by the conflict, especially at primary level

Enrolment increased in most sectors from 2008 to 2015, particularly in pre-primary and secondary education, which registered an annual growth rate of 19% and 15%, respectively (*Table 2.1*). These high values, while fuelled by initially low levels of enrolment, could also be attributed to a catch-up phenomenon in pre-primary and, for secondary, to growing pressure from primary as more children complete the cycle. Tertiary education was the only sector to have experienced a decrease in enrolment following major disruptions in the sector.

Table 2.1. Enrolment evolution between 2008 and 2015, by sector, with and without GUPN

	w/o GUPN			with GUPN		
	2008	2015	Annual growth rate 2008–2015	2008	2015	Annual growth rate 2008–2015
Pre-primary	50 299*	91 437	16.1%**	55 905*	110 824	18.7%**
Primary	664 818	1 027 450	6.4%	1 156 461	1 253 967	1.2%
Secondary (incl. technical)	19 564	60 398	17.5%	25 144	66 252	14.8%
TVET (centres)	–	–	–	2 594	3 050	2.3%
AES	47 848	111 550	12.9%	84 915	140 984	7.5%
Tertiary	–	–	–	23 968†	11 108	-12.2%††

Source: MoEST, 2008–2015. For tertiary: World Bank, 2012; MoHEST, 2015; MoEST, 2008–2015. Authors' computations.

Note: *2011; **over 2011–2015. † 2009; †† over 2009–2015. See *Table A6* for details.

36. The GUPN states include Jonglei, Upper Nile, and Unity.

37. See *Figure 1.2* for an analysis of level of risk by county. Note that SSAMS data are reporting similarly low levels of school coverage.

Enrolment at primary level has witnessed the lowest rate of increase (1.2%) and has in fact declined steadily since 2010 (see *Table A6* for details). This decline in primary level enrolment is due to the critical situation in the GUPN states: an estimated 380,000 previously enrolled children did not attend school in 2015³⁸ (*Table 2.1*). This decrease in enrolment is not observed when Greater Upper Nile states are omitted from computations, indicating that fragility and insecurity in GUPN states is negatively affecting the development of the entire sector.

Table A6 also shows that the evolution of enrolment remains erratic for the period in question for most sectors, except pre-primary, which has steadily increased since 2010. Inconsistencies in EMIS reporting from one year to the next could partly account for this situation.³⁹

The non-government sector is driving enrolment growth by increasing school supply

In 2015, the non-government sector played a substantial role in the provision of schooling in South Sudan, enrolling between 28% of pupils in primary and 72% in pre-primary pupils in non-government schools, while 49% of secondary level pupils and 33% of AES pupils attended non-government schools (*Table 2.2*). This sector has also grown since 2008, reflected by the increased share of pupils and students enrolled in non-government schools between 2008 and 2015. This increase has been particularly strong in secondary education (an increase of 13 percentage points) (see *Table A6*).

While enrolment in non-government schools remains prevalent in primary and AES, enrolment in *for-profit private* institutions remains marginal (2–3%) and, as such, does not undermine access to school for children in vulnerable groups. NGOs and communities are particularly active in AES and TVET, accounting for 24% and 23% of all enrolment, respectively. This situation could reflect lack of governmental supply in those particular areas.

Table 2.2. Distribution of students, by sector and school ownership, 2015 (%)

	Pre-primary	Primary	Secondary	AES	TVET
Government	28	72	51	67	62
Community	17	10	7	11	–
Religious	19	9	19	2	16
Private	12	3	15	2	–
NGO/international	14	2	4	13	23
Other/not known	11	3	4	5	–
Total	100	100	100	100	100

Source: MoEST, 2008–2015. Authors' computations.

Analysis shows wide state disparities in the distribution of primary-level pupils according to school ownership (*Table 2.3*). More than 80% of students are enrolled in government schools in Northern Bahr el Ghazal (NBG), Warrap, and Lakes, against 50% in Upper Nile and Central Equatoria. In Upper Nile, the main suppliers to schools, after the Government, are communities and NGOs (31%), whereas in Central Equatoria, communities and religious organizations provide schooling (35% of enrolment). In the latter case, the cause might be the high demand for schooling.

The share of primary pupils enrolled in government and community schools decreases from low-risk areas to highest risk areas (*Table 2.4*), while the share in religious and NGO schools increases, suggesting that these providers have stepped in where the former were unable to provide schools. Non-government school providers have helped to loosen the supply constraint, sustaining enrolment in particularly fragile areas. In the lowest risk areas, the strong presence of non-government schools might be associated with high level of school demand, which the government is unable to meet.

38. Confirmed by UNICEF (UNICEF ESARO, 2015).

39. Since its inception in 2007, EMIS has witnessed major improvements covering an increasing number of sectors, from pre-primary to secondary, including primary and AES. However, data on TVET, TTIs, and higher education are not available on a yearly basis. The system also suffers from several major issues: there is no master list of schools and the quality of response remains poor. MoEST with external technical support is currently deploying efforts to address these issues. It should be noted that no school census took place in 2014 due to contractual issues with external technical assistance.

Table 2.3. Distribution of students, by school ownership, primary level, and state, 2015 (%)

	Government	Community	Religious	Private	NGO/Inter	Other/NK	Total
Central Equatoria	53	14	21	7	0	5	100
Eastern Equatoria	68	15	13	2	1	2	100
Jonglei*	76	1	8	3	11	1	100
Lakes	85	2	7	0	2	3	100
Northern Bahr el Ghazal	80	11	4	2	0	3	100
Unity*	63	13	13	1	10	1	100
Upper Nile*	51	18	4	4	13	9	100
Warrap	81	12	2	1	0	4	100
Western Bahr el Ghazal	72	7	11	7	0	3	100
Western Equatoria	63	17	11	5	1	3	100
South Sudan	72	10	9	3	2	3	100

Source: MoEST, 2008–2015. Authors' computations.

Note: *Refers to the Greater Upper Nile region, under-covered EMIS states.

Table 2.4. Distribution of primary pupils, by school ownership and county level of risk, 2015 (%)

	Government	Community	Religious	NGO	Private	Other/NK	Total
Lowest risk	66	13	13	1	3	4	100
Low	78	11	6	0	2	3	100
High	69	9	10	4	5	3	100
Highest risk	67	6	12	11	2	1	100
National	72	10	9	2	3	3	100

Source: MoEST, 2008–2015; OCHA 2015 Risk Index. Authors' computations.

Much of enrolment dynamics over recent years can be attributed to the non-government sector, which has in many instances helped to loosen the supply constraint, especially in conflict-affected areas, thereby sustaining enrolment.

2.2.2 AES provision

In 2015, AES reported 141,000 students in 1,331 centres⁴⁰ of whom 67% were enrolled in government schools and 43% were female (Table 2.5). Wide variations in the shares of government and female students were observed by state.

Table 2.5. AES enrolment, share of government and share of females, by state, 2015

	Number of students	Share in government	Share of females
Central Equatoria	13 337	50%	52%
Eastern Equatoria	4 373	77%	48%
Jonglei*	16 205	67%	42%
Lakes	22 151	66%	36%
Northern Bahr el Ghazal	31 735	85%	42%
Unity*	6 523	66%	33%
Upper Nile*	6 706	20%	42%
Warrap	16 729	70%	44%
Western Bahr el Ghazal	10 791	73%	41%
Western Equatoria	12 434	59%	49%
South Sudan	140 984	67%	43%

Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

40. Many AES centres were not recorded by the EMIS in 2015, leading to underestimates of enrolment figures. To improve EMIS coverage for the 2016 exercise, the EMIS team is liaising with the AES department to provide an up-to-date list of schools/centres offering AES.

The ALP absorbs the majority of students (85% or 119,000 students), while the CGS programme enrolls 6% of AES learners (approximately 8,400 students in 2015). They offer interesting alternative schooling opportunities for teenagers who have never been to school or who dropped out early from primary, enabling many ALP students to sit the Primary Leaving Examination (PLE).^{41,42} While ALP is currently the only AES programme found in all states, the need for alternative education for youth remains much higher than current supply, as highlighted by the number of out-of-school children and adolescents, estimated at 2 million in 2015.

Other programmes geared towards adults (e.g. BALP) and to pastoralists (e.g. PEP, which is under development) are narrow in coverage and not available throughout the territory, indicating a major gap in alternative education for many South Sudanese. This is concerning given that many adults are illiterate (approximately 3.77 million)⁴³ and in acute need of literacy programme opportunities.

Table 2.6. Share of AES programme in 2015

	ALP	CGS	BALP	PEP	Other	Unknown	Total
Number of students	119 194	8 372	2 530	1 027	5 602	4 259	140 984
Share by programme	85%	6%	2%	1%	4%	3%	100%
Share in government	70%	42%	51%	53%	47%	84%	67%
Share of females	41%	57%	46%	31%	43%	51%	43%

Sources: MoEST, 2008–2015. Authors' computations.

2.2.3 TVET provision⁴⁴

The TVET sector is handled by various ministries, with MoEST the central actor working alongside MoCYS and MoLPS.⁴⁵ Lack of coordination among line ministries and lack of a cohesive policy and programming approach has led to fragmented programme delivery (UNESCO, 2014). The development of a TVET policy in 2015 aims to address these issues.

In 2015, EMIS recorded 26 centres and seven secondary technical schools with a total of 4,722 students (3,050 in TVET centres and 1,672 in secondary technical schools). Following the recent war, many schools and centres were closed, destroyed or are currently non-functional, explaining the limited number of operational centres.⁴⁶

The provision of TVET by state is skewed toward Central Equatoria, which accounts for 58% of facilities and 73% of students (Table 2.7). In 2015, females accounted for 36% of TVET students.

Table 2.7. TVET facilities and enrolment, by state, in 2015

	Centres and technical secondary schools		Students	
	Number	Distribution	Number	Distribution
Central Equatoria	19	58%	3 464	73%
Eastern Equatoria	5	15%	227	5%
Lakes	2	6%	236	5%
Northern Bahr el Ghazal	1	3%	69	1%
Western Bahr el Ghazal	4	12%	626	13%
Western Equatoria	2	6%	100	2%
Total	33	100%	4 722	100%

Source: MoEST, 2008–2015. Authors' computations.

41. The ALP offers primary school programmes condensed into four years with the option to sit for the PLE. Every year an estimated 18,000 pupils from AES sit the PLE.

42. A similar programme is also being developed at secondary level for secondary dropouts.

43. According to the 2008 census, only 27% of South Sudanese aged 15 and above are literate (see *Chapter 1*). If this figure still prevails in 2015, an estimated 3.77 million of South Sudanese aged 15 and above will be illiterate.

44. See the TVET policy review (UNESCO, 2014) and the 2015 TVET policy (MoEST, 2015a) for details on the TVET sector and policies.

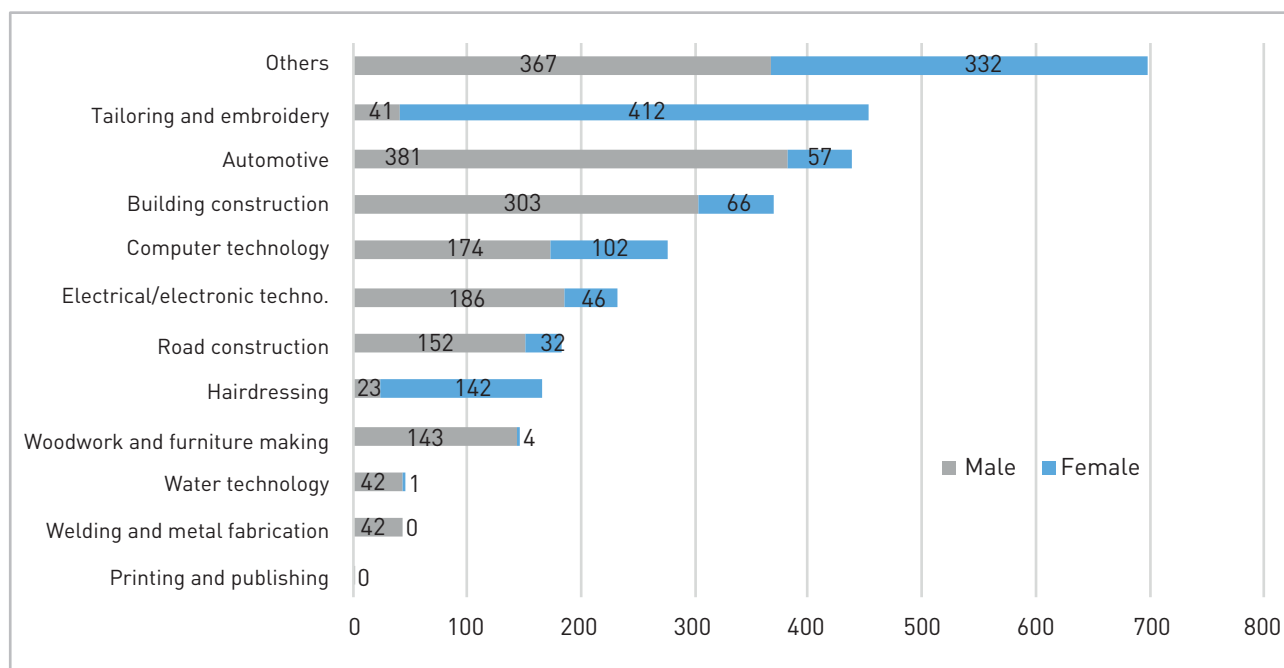
45. At least 10 ministries are involved in TVET provision of various kinds (UNESCO, 2014).

46. Not all centres were also recorded in EMIS.

Centres offer traditional subjects that are not entirely suited to local needs, particularly in rural areas. Additionally, courses are often gender-biased. For example, 46% of girls are enrolled in tailoring and embroidery or hairdressing courses, while only 37% of students enrolled in computer technology and 20% of students enrolled in electrical/electronic technology are girls.

According to the 2015 TVET policy review (UNESCO, 2014), TVET supply does not currently meet the qualitative requirements of the labour market, and also does not meet the quantitative needs of the substantial youth population. A major issue relates to lack of a harmonized qualification framework. However, the newly drafted TVET policy is designed to reconcile these issues (MoEST, 2015a).

Figure 2.1. Enrolment of students by course and gender, TVET centres, 2015



Source: MoEST, 2008–2015. Authors' computations.

2.2.4 Higher education provision

Data for higher education are scarce and patchy with no trend data available. Existing data indicate that the closure of northern campuses following South Sudan's independence in 2011 has negatively affected enrolment in public high learning institutions (HLIs), resulting in a continuing fall in student enrolment from 23,000 in 2009 to 16,500 in 2012 to 6,500 in 2015. The outbreak of conflict in December 2013 resulted in massive disruption to the sector, with the University of Upper Nile transferred to Juba. Public universities lost students in huge numbers, many of whom seemed to favour private institutions. It is also believed that a large number of students elected to study abroad in neighbouring countries. However, no data are available to confirm this. In 2015, public universities were working at 60% of capacity, with more than 4,000 vacant places, according to MoHEST admission records.

In 2015, three-quarters of *public* students were enrolled in undergraduate programmes (4,877 students). The remaining 1,585 (25%) were enrolled in graduate programmes. Female enrolment accounted for 22% of total enrolment in public universities and 28% in private institutions in 2015.

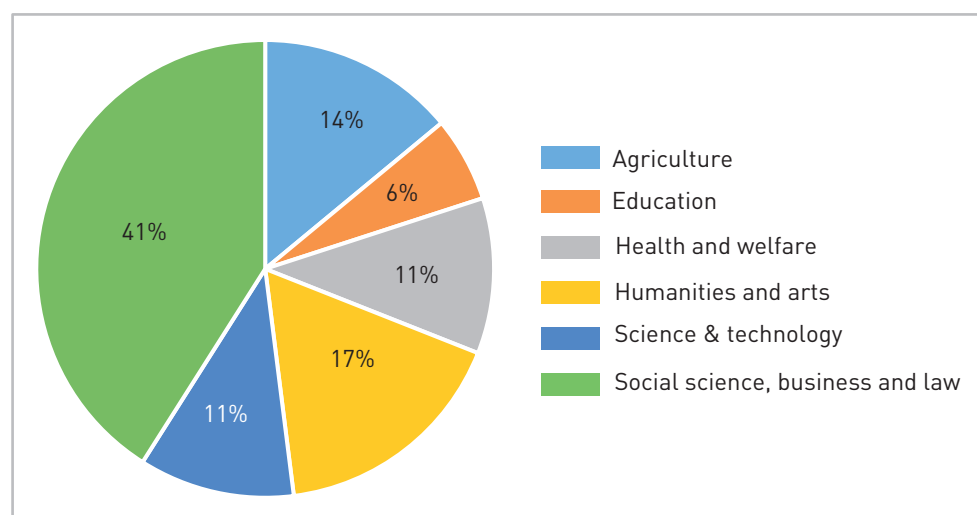
In 2015, a majority of students enrolled in public universities (41%) registered in social sciences and related studies, while 14% of students registered for courses in agriculture, and 11% registered in health and welfare. Science and technology courses attracted a limited number of students, with only 11% of total enrollees (688 students) taking part. Female students tended to enrol in courses on humanities, art, social sciences, and health and welfare. In 2015, education courses attracted barely 380 students, a low number given the high demand for teachers.

Table 2.8. Enrolment in higher education, 2009–2015

	2009			2012	2015
	South Sudan campuses (Juba, Malakal and Wau)	Northern Sudan campuses (Khartoum)	Total	Total	Total
Public	5 529	17 391	22 970	16 528	6 462
Juba University	2 113	12 668	14 781	11 022	3 343
University of Bahr el Ghazal	1 666	3 316	4 982	2 588	746
Upper Nile University	1 608	1 407	3 065	2 254	1 722
Dr John Garang Memorial University	142	–	142	399	277
University of Rumbek	–	–	–	265	374
Private	998	–	998	N/A	4 646
Total	6 527	17 391	23 968	–	11 108
% in private	15%	–	4%	–	42%

Sources: 2009: World Bank, 2012. 2012: MoHEST, 2012. 2015: MoEST, 2008–2015; MoHEST, 2015.

Figure 2.2. Student enrolment distribution, by field, public HLIs, 2015 (%)



Source: MoHEST, 2015. Authors' computations.

2.2.5 Gender disparities in enrolment

Participation of female pupils decreases as students move up the education ladder

The share of female students barely changed between 2008 and 2015, although there has been a slight improvement at primary and secondary levels, where the share of female students enrolled has increased by three and two percentage points, respectively (Table 2.9). The cash transfers programme supported by DFID may have helped in this regard.⁴⁷ Despite these advances, the share of female students has remained stable at pre-primary level at 48% (with parity almost reached) and has decreased in AES by one percentage point over this period.

Additionally, the share of female students decreases from lower to upper levels of education, from 48% at pre-primary level to 24% at university level. Parity remains a significant problem for most sectors, with the parity index much below 1 at primary level. Indeed, disparities start at primary and widen thereafter: for every 100 male pupils enrolled in primary, there are 68 female. At university, 28 female students are enrolled for every 100 male students (GPI of 0.28).

47. Cash transfers are direct payments made to girls enrolled in P5 till S4 and regularly attending school. Under this programme, approximately 103,000 girls received financial support in 2015 (126 857 by the end of 2015) (SSAMS website). This amount is substantial given that 140,500 girls enrolled in P5 to S4 in 2015, according to EMIS.

Table 2.9. Evolution in the share of female students and the Gender Parity Index, 2008–2015, by sector

	Share of females enrolled		Gender Parity Index (F/M)	
	2008	2015	2008	2015
Pre-primary	48%*	48%	0.92*	0.92
Primary	37%	40%	0.59	0.68
Secondary	29%	31%	0.41	0.46
TVET	–	39%	–	0.64
AES	44%	43%	0.77	0.74
Higher education	–	24%	–	0.32

Source: MoEST, 2008–2015. Authors' computations.

Note: *Refers to 2011 data.

Wide state disparities exist in the share of enrolled female students with relatively fewer girls enrolled in high-risk areas

The share of female student enrolment varies widely from state to state (Table 2.10). For example, the share of enrolled female students at primary level varies from 34% in Lakes to 48% in Central Equatoria. The widest disparities can be observed at the secondary level, where the share of enrolled female students stands at 38% in Central Equatoria, compared with 16% in the Upper Nile.

Table 2.10. Share of enrolled female students, by sector and state, 2015 (%)

	Pre-primary	Primary	Secondary	AES
Central Equatoria	49	48	38	52
Eastern Equatoria	49	43	31	48
Jonglei*	43	41	26	42
Lakes	38	34	32	36
Northern Bahr el Ghazal	48	39	25	42
Unity*	46	38	24	33
Upper Nile*	49	47	16	42
Warrap	45	35	19	44
Western Bahr el Ghazal	46	42	33	41
Western Equatoria	50	46	32	49
South Sudan	48	40	31	43
Minimum	38	34	16	33
Maximum	50	48	38	52
Gap (maximum - minimum)	12	14	22	19

Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

The share of enrolled female students is somewhat correlated with the level of risk. From the lowest risk to the highest risk counties, the share of primary female students drops from 41% to 27%.

2.3 Schooling coverage

Analysing enrolment trends in the light of population data helps to measure the potential demand for education and ascertain how much demand is currently being met. Coverage indicators are the best instruments for this purpose and are examined in this section.

2.3.1 Conflict affects enrolment coverage, especially in primary

School coverage decreased in most sectors between 2009 and 2015. The gross enrolment rate (GER) for primary decreased from 72% to 56%, while it halved in AES to 1,282 learners per 100,000 inhabitants in 2015. A significant drop in higher education coverage was also registered. TVET and secondary seem to have been protected with TVET

coverage remaining stable over the period, with 43 learners per 100,000 inhabitants registered in 2015 against 44 in 2009, while secondary coverage grew from 6% to 6.5% over the period.⁴⁸

However, the situation differs dramatically when the GUPN states are omitted, with school coverage improving rather than deteriorating. This is especially striking at primary level, where the GER rose from 64% to 72% between 2009 and 2015. At secondary level, school coverage rose from 7% to 9%. Conflicts upset enrolment, especially at primary level. This is related to the geographical allocation of schools throughout the territory, as secondary schools and TVET centres are concentrated in urban areas, which are less prone to conflict and related risks.

Table 2.11. Schooling coverage indicators, by sector, 2009 and 2015

	2009	2015	Growth rate 2009–2015
National with GUPN			
GER pre-primary	–	9.7%	–
GER primary (eight-year cycle)	71.6%	56.5%	-21.1%
GER primary including ALP and CGS	81.0%	62.3%	-23.2%
GER secondary (including technical secondary)	5.9%	6.5%	10.7%
AES per 100 000 inhabitants	2 501	1 282	-48.7%
TVET as % of general secondary education	9.0%	7.3%	-19.0%
TVET per 100 000 inhabitants	44	43	-3.8%
Tertiary for 100 000 inhabitants	276	101	-63.4%
National without GUPN			
GER primary (eight-year cycle)	63.9%	72.4%	13.4%
GER primary including ALP and CGS	72.5%	79.4%	9.5%
GER secondary (including technical secondary)	7.0%	9.3%	32.0%

Source: MoEST, 2008–2015. Authors' computations.

Note: See *Table A7* for gender-based analysis.

When ALP and CGS (both AES) programmes are included in computations of the primary GER, primary school coverage increases from 57% to 62% and from 72% to 79% in non-GUPN states. This result highlights the added value that such programmes represent.⁴⁹

Lastly, very few children are currently benefiting from pre-primary, which has an overall GER of 10%. As such, few pupils enter primary with the necessary cognitive, linguistic, and socio-emotional competencies.

State-level schooling coverage displays huge variations

In general, western and central-southern states tend to exhibit higher coverage rates, while conflict-affected areas display the lowest level of coverage (*Figure 2.3*). This is a consequence of major disruptions in service delivery. The high coverage of primary in Northern Bahr el Gazal could be related to the influx of pupils caused by population migration away from conflict-stricken areas (including returnees from Sudan and IDPs from GUPN). The high coverage observed in Central Equatoria and Western Bahr el Ghazal is linked to the dominant political and economic situation in the former (Juba, the capital, is located in Central Equatoria), while the latter is traditionally peaceful, has made notable investments in education over recent decades, and is home to the Greater Bahr el Gazal headquarters (Wau), where there is a concentration of (educational) infrastructure.

In conflict-prone areas, humanitarian assistance has enabled children to pursue their schooling without interruption and learn in safe environments. *Box 2.1* provides an overview of emergency humanitarian support for education delivery, including UNHCR programmes for refugees.

48. Net school coverage indicators (NET and NIR) are presented in *Table A8*.

49. More information on the efficiency of these two programmes (ALP and CGS) is necessary before expanding their coverage. For example, knowing the number of ALP learners who pass and transit to secondary schools after sitting the PLE would provide some insight into the efficiency of the programme.

Box 2.1. Humanitarian support for education service delivery in 2015

Disparities in education services have been exacerbated in conflict-affected areas of South Sudan, which have experienced significant disruption in service delivery following violence and displacement. This was further aggravated in 2015 by rapid economic deterioration and severe drought in the northern part of the country. Where possible, humanitarians have intervened focusing on communities most affected by displacement, including those in PoC camps and the IDP community in the GUPN states.

The education cluster has focused on several key humanitarian objectives:

- Ensuring uninterrupted access to quality learning in protective spaces for conflict-affected children;
- Protecting learners and learning spaces by supporting training in psychological support and life skills, and supporting the vacancy of occupied schools;
- Enabling conflict-affected children to pursue healthy and productive lives through age and gender-appropriate alternatives to recruitment, child labour, and other forms of exploitation.

The variety of education activities reached 415,308 out of the 486,786 targeted learners (85%) in areas in Central Equatoria, Jonglei, Lakes, Unity, and Upper Nile. The shortfall was due to lack of funds, the high turnover among partners, and the inaccessibility of some locations due to insecurity.

The following activities were conducted:

- 726 (out of 900) temporary learning spaces were constructed.
- Schools were supplied with teaching and learning materials (e.g. school-in-a-box, early childhood development (ECD) and recreational kits, dignity kits for female-oriented students). A total of 72,152 female-oriented learning materials and 108,980 male-oriented learning materials were distributed in targeted areas.
- Training was provided to 11,030 teachers and PTAs on key areas including: basic pedagogy, child-centred teaching methods, psychosocial support, life skills, disaster risk reduction, the teacher's code of conduct, roles and responsibilities of PTAs, developing school improvement plans, and child protection issues including referral pathways.
- Payment of teacher incentive to 2,585 volunteers/facilitators working in education in emergency (EiE) zones (313 female, 2,272 male);
- More than 37,000 children in PoCs were enrolled in primary schools of whom 41% were girls (representing a GER of 46.3%).

While the results achieved were substantial given the committed efforts of all actors on the ground, numerous challenges limited the scope of interventions. The *Education Cluster 2015 Annual Report* highlighted several factors including: turnover of staff within the Education Cluster Unit; outbreaks of violence leading to population displacement, which rendered humanitarian access more difficult and risky and eroded past achievements; occupation of schools; high turnover of staff in partner organizations; non-uniformity of teacher incentives resulting in considerable frustration (see *Box 5.2*); short-term funding; and a lack of exit strategies.

In some cases, humanitarian support has been perceived as 'rewarding' violence or as being a 'conflict dividend', leading to frustration in nearby and/or 'stable' communities. In other cases, MoEST officials have perceived humanitarian actors' approaches to service provision as overshadowing or excluding the government, resulting in tensions and potentially affecting community perceptions of government legitimacy (UNICEF ESARO, 2015).

Diversity and integration are key concerns in education for displaced communities (e.g. IDPs, refugees, and returnees). Ethnic and linguistic diversity can also affect school integration for displaced communities.

Education for refugees

According to the South Sudan Refugee Act (2012), refugees have the right to access education in the country from early childhood education to tertiary level. However, most refugees are hosted in camps and settlements, which in combination with challenges facing the education sector has led to the establishment of primary schools in various refugee camps and four secondary schools in four refugee camps/settlements. In addition, some students are accessing local secondary schools as well as tertiary institutions. These institutions allow refugees to access education at the same rate and under the same arrangement as national students. In addition, 247 refugee children in urban contexts are integrated into local primary schools and 105 students into secondary schools (UNHCR, 2014).

UNHCR provides education services to refugee children across nine camps located in Central Equatoria, Unity, Upper Nile, and Western Equatoria, hosting an estimated 136,961 children (68% of the camp population) of whom 93,201 are of school age (48,578 female). UNHCR is currently supporting 25 schools through national and international NGOs. While UNHCR support covers primary, ALP, and secondary education, UNICEF supports

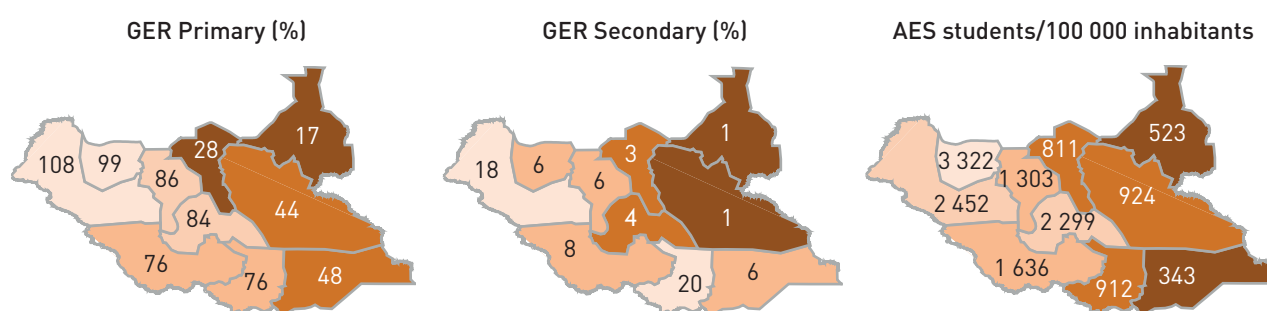
pre-primary/early childhood education in refugee camps. Current primary school enrolment rates stand at 69%: 33% in secondary and 37% in pre-primary schools. ALPs, which aim to increase access to education by targeting over-age learners, school dropouts, and the out-of-school population, have enrolled a total of 8,129 of whom 2,805 are female.

UNHCR education support to refugees includes: the construction of school infrastructures, school supplies, teacher salaries/incentives (in some locations national teachers are hired or seconded to teach in refugee schools), training of refugee teachers, and partial support to host communities (construction of schools in host communities). In some locations, this support has led to conflict or tension between refugees and host communities. Bridging this gap is critical to enhancing peaceful co-existence between the two communities and may require the intervention of other humanitarian/development actors.

Actors who support refugee and returnee communities generally promote school integration with host communities. In order to reduce tensions over the cost of education, one donor emphasized the importance of allowing local students to study in schools for refugee communities, as these are free. However, while host community students are free to access refugee and returnee schools, and vice-versa, integration may be limited due to the physical separation of communities. One participant in Warrap explained that while local residents can attend schools for returnees from Sudan constructed by UN agencies, the returnees have settled on one side of town away from the rest of the community. A *payam* education official in Central Equatoria also reported that although refugees and South Sudanese returning from Sudan can attend any school in the *payam*, they face challenges adapting to the English language curriculum (UNICEF ESARO, 2015).

Sources: SSEC and MoEST, 2015; UNHCR, 2014; UNICEF ESARO, 2015.

Figure 2.3. Schooling coverage indicators, by sector and state, 2015



Source: MoEST, 2008–2015; smoothed NBS (2015) population projection at state level. Authors' computations.

2.4 Schooling profiles

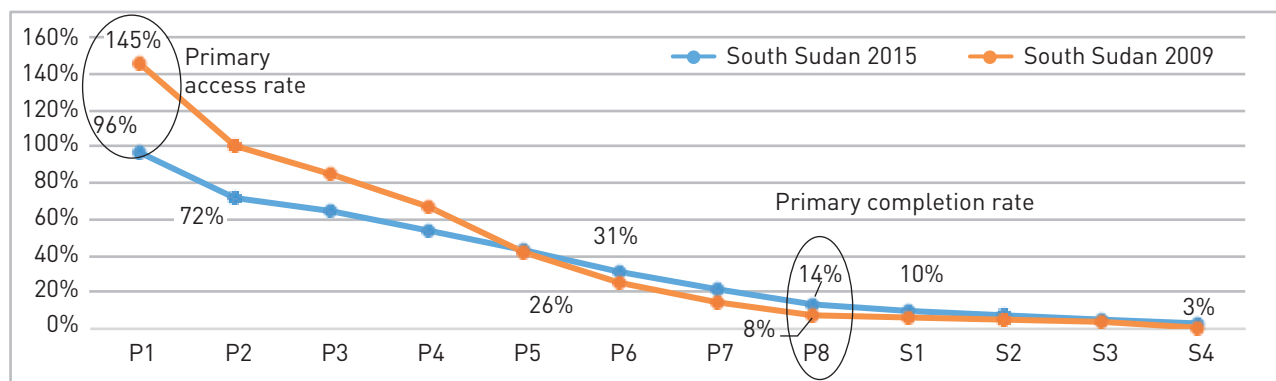
While school coverage rates provide an average value of enrolment capacity, this does not include data on access and completion of a given cycle by pupils – two major information points useful for education planners, among others. This information can be abstracted from schooling profiles and used to design appropriate education policies. These are reviewed below.

2.4.1 Universal primary education remains a major challenge

An analysis of transversal schooling profiles⁵⁰ in South Sudan shows that access to primary education dropped between 2009 and 2015, from 145% to 96%, indicating that not all children attended primary in 2015 (Figure 2.4). In addition, only 14% of children reached the end of primary in 2015, up from 8% in 2009. Massive dropouts occurred throughout the cycle, especially between P1 and P2, as shown by the steeper curve. This could be linked to poor pupil preparedness following low coverage of pre-primary.

50. Schooling profiles comprise a series of access rates for each grade. They provide a visual representation of the schooling pattern of an average child. The first point of the profile informs the level of access to primary (often referred to as the gross intake or gross access rate), while the last point of a given cycle informs the completion level of that cycle.

Figure 2.4. Transversal profile, primary and secondary levels, 2009 and 2015 (gross access rate, %)



Sources: World Bank, 2012; MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.

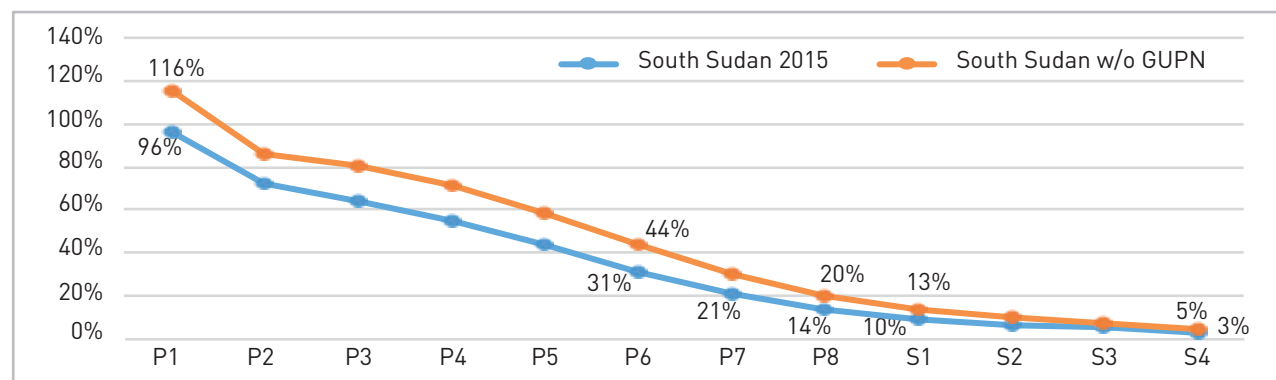
No major changes were observed in secondary access and completion over 2009 and 2015, while the transition from primary to secondary deteriorated, with 69% of P8 students able to transit to S1 in 2015, down from 87% in 2009. This result indicates a potential increase in supply constraints at secondary level. In 2015, only 10% of children entered secondary schools and 3% reached the end of the cycle, up slightly from 7% and 1%, respectively, in 2009.

Universal primary education (UPE), which requires that *all* children enter *and* complete the primary cycle, remains a major challenge for South Sudan. While access issues prevail, the main problem facing the education system is pupil retention,⁵¹ which remains low despite improvements: survival rates stood at 14% for primary and 31% for secondary in 2015 compared with 5% and 10%, respectively, in 2009.

However, access to education is higher in non-GUPN states

When the GUPN states are omitted, access improves for all grades, highlighting better schooling access conditions in non-GUPN states compared with GUPN states, especially in primary. The disrupted schooling system in GUPN states affects the overall schooling pattern, resulting in a much more gloomy situation.

Figure 2.5. Transversal profile, primary and secondary, with and without GUPN states, 2015 (gross access rate, %)



Sources: World Bank, 2012; MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.

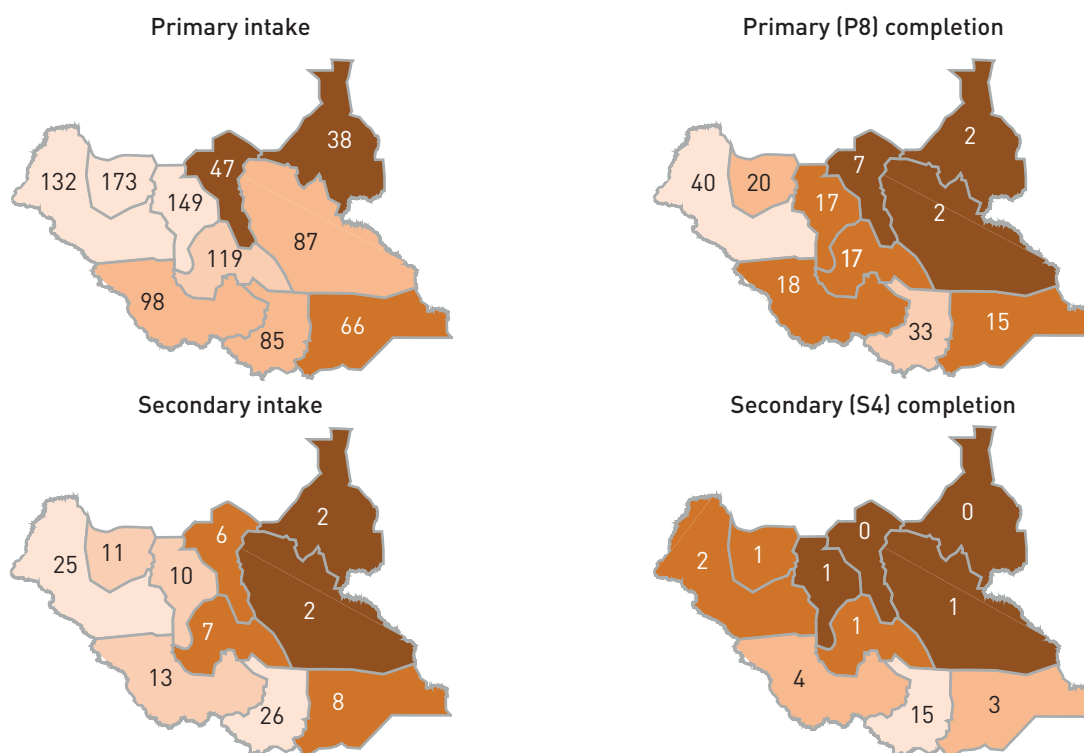
National averages hide important state disparities

Analyses conducted at state level (Figure 2.6) show major disparities. Access to primary varies between 38% in Upper Nile to 173% in Northern Bahr el Ghazal. However, while disparities tend to prevail throughout the cycles, they narrow from access to P1 to secondary completion. Indeed, the gap (i.e. the difference between the lowest and highest performers) reaches 38 percentage points in primary completion, compared with 24 percentage points in access to secondary and 14 percentage points in the completion of the secondary cycle. Here again, central-southern and western states tend to perform better. The northern states display particularly low values as far as secondary completion is concerned. This situation derives, among others, from the fact that many schools still do not have the

51. Two consecutive EMIS data years are needed to properly compute these indicators. The computations here are based on 2015 data only, done transversally.

S4 grade, required under the new South Sudanese secondary curriculum. While the reform is difficult to implement as a result of insecurity issues and difficulties in locating English-speaking teachers, there is a progressive phase-in which varies from one state to another.

Figure 2.6. Intake and completion rates, primary and secondary, by state, 2015 (gross access rate, %)

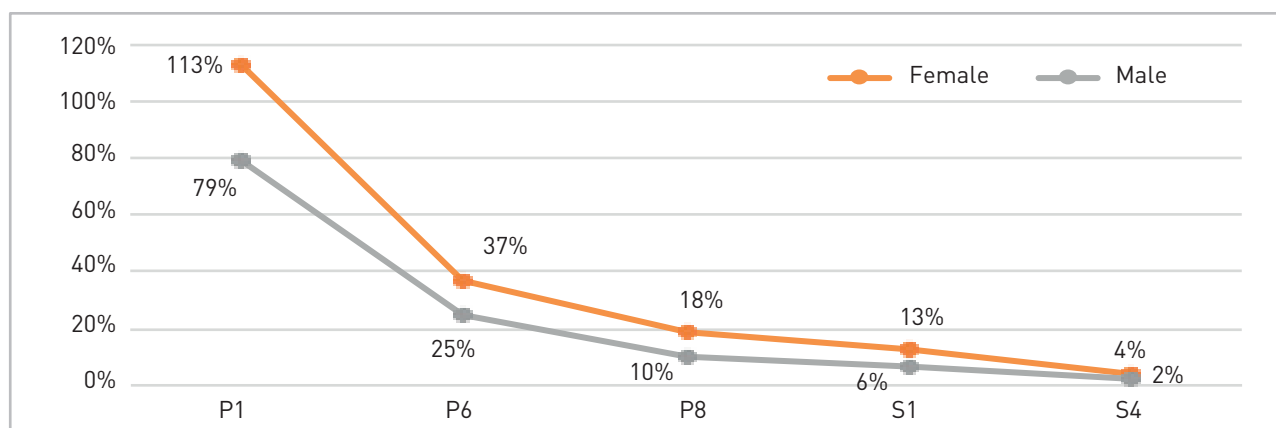


Source: MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.

Lower female schooling levels are mainly generated at primary school entry

Simplified schooling profiles in primary and secondary for girls and boys in 2015 highlight gender disparities in access to grades (Figure 2.5). Female access to primary is much lower than that of boys, at 34 percentage points, although disparities tend to be less strong thereafter. In addition, once girls have reached secondary, the level of dropout frequency is relatively lower than for boys.

Figure 2.7. Simplified schooling profile, by gender, primary and secondary, 2015 (gross access rate, %)



Source: MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.

Gender disparities have narrowed over the years, but remain high across states

Trend analyses show that disparities between boys and girls in accessing various grades have narrowed slightly. In 2015, 70 girls accessed P1 for every 100 boys, compared with 68 girls in 2009. With regard to the primary completion rate, the GPI increased from 0.53 to 0.55 over the same period. More girls are also accessing secondary schools, although their participation is still very restricted (GPI of 0.5 in 2015). Conditional cash transfers to girls supported by DFID might have played a positive role in favouring girl's access and retention.⁵²

Table 2.12. Gender Parity Index (F/M) on access rates, 2009 and 2015, and state gender disparities, 2015

	Access P1	Retention S8	Completion P8	Transition Prim– Sec	Access S1	Retention S4	Completion S4
South Sudan 2009	0.70	0.79	0.55	0.90	0.50	1.11	0.55
South Sudan 2015	0.68	0.78	0.53	0.73	0.39	1.46	0.57
State (2015)							
Minimum value	0.54	0.61	0.35	0.24	0.20	0.41	0.12
Maximum value	0.99	1.12	0.81	1.39	0.68	1.32	0.64
Gap	0.45	0.51	0.46	1.15	0.48	0.91	0.52

Sources: World Bank, 2012; MoEST, 2008–2015; smoothed NBS (2015) population projection for 2015. Authors' computations.
Note: See *Table A9* for more information.

While gender disparities do accumulate over grades and cycles, reaching their highest level at secondary access, major disparities are created at primary school entry. The critical issue for girls today is accessing primary school.

Data disaggregated by states (see *Table A9*) highlight major disparities from one state to the other. Warrap, Northern Bahr el Ghazal, Jonglei, and Lakes display the highest levels of gender disparities (across all levels for the two former states and at primary level for the two latter). State gender disparities also tend to widen from access to primary (a gap of 0.45) to secondary completion (a gap of 0.52).

2.5 Internal efficiency

Repetition is associated with higher costs as pupils have to complete the grade twice, but also with higher dropout propensity as it tends to provide a negative signal to both parents and teachers about the potential difficulties and abilities of the child. Repetition also leads to higher pupil–teacher ratios, resulting in a deterioration in classroom learning conditions. Analysing repetition levels is therefore critical.

2.5.1 Repetition is relatively low...

Analysis of the share of repeaters by grade for both primary and secondary levels in 2015 shows that, on average, 9% of pupils repeat in primary, with little variation across grades, except in P1, which records the highest level of repeaters at 11% (*Figure 2.8*). In secondary, repetition is lower, at 4% on average. No changes were observed in the level of repetition between 2009 and 2015.

Repetition practice is not homogeneous across states (see *Table A10*), varying in primary from 4.5% in Jonglei to 13% in Eastern Equatoria. In secondary, state disparities are less marked, with repetition levels ranging from 1.2% in Unity to 6% in Western Equatoria.

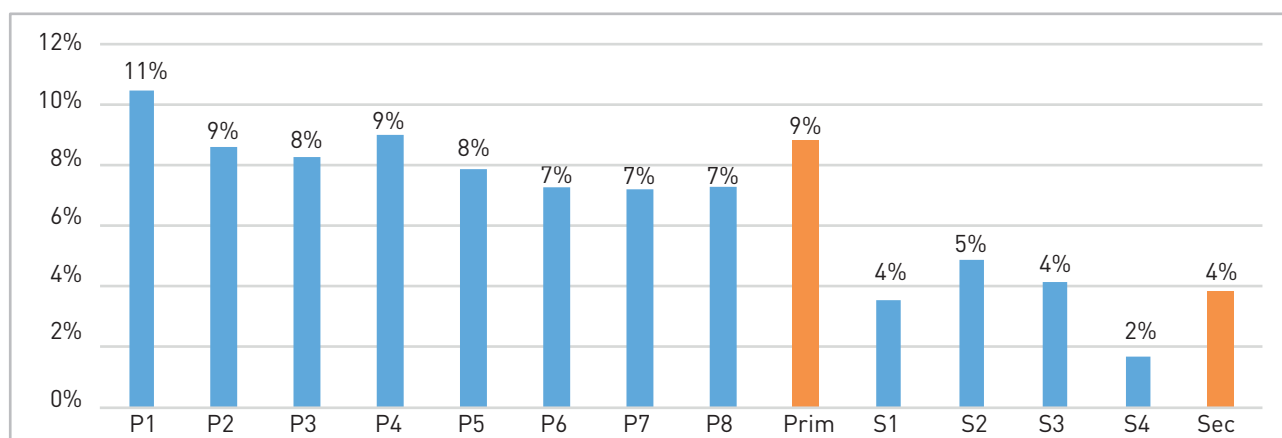
As far as gender is concerned, girls tend to repeat more than boys in primary (10% and 8%, respectively), while repetition tends to be uniform across sex in secondary. Gender disparities are also more pronounced in Lakes and Western Bahr el Ghazal, at both primary and secondary levels, and in Warrap at primary level.

... compared with other countries, although there is room for a further decrease

Compared with other countries, South Sudan has low levels of repetition. Indeed, the average share of repeaters in the sample of countries is 14%, and ranges from 3% in Tanzania to 25% in Chad. South Sudan, with a record of 9%, is among the countries with low repetition and below the former Fast Track Initiative (FTI) benchmark of 10% of repeaters. However, there is room for further improvement, as shown in Tanzania. Instituting automatic repetition in South Sudan between two or three consecutive grades could be a cost-effective measure to further reduce repetition and its related costs.

52. The programme, which targets girls in P5 to S4, seeks to enable families to send girls to school by alleviating some of the direct and indirect costs associated with girls' education. Payments are conditional on school enrolment and attendance. In 2015, 103,000 girls benefited from this programme. This figure is quite substantial given that 140,500 girls enrolled in P5 to S4 in 2015, according to EMIS.

Figure 2.8. Repetition proportion, by grade, primary and secondary, 2015 (%)



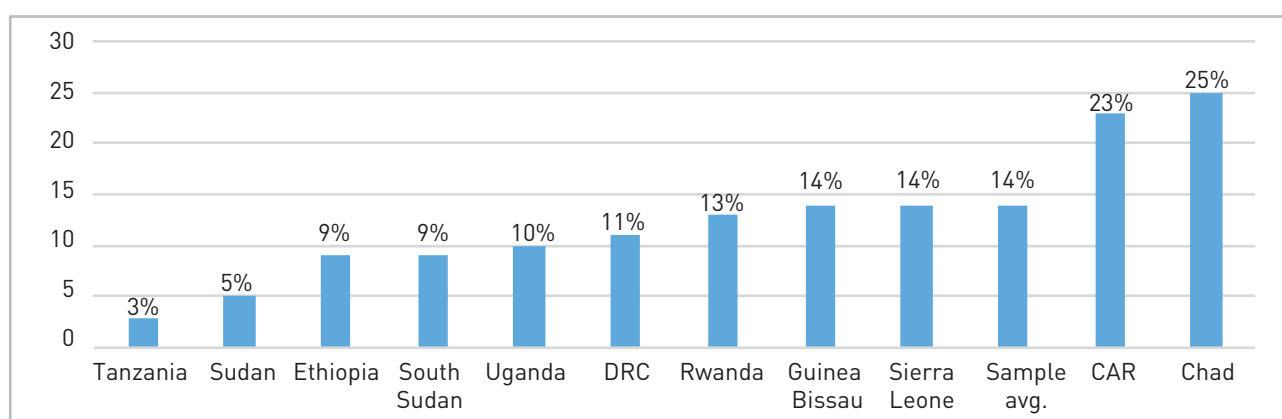
Source: MoEST, 2008–2015. Authors' computations.

Table 2.13. Share of repeaters, by gender, primary and secondary, 2015 (% and GPI (F/M))

	Primary			Secondary		
	Male	Female	GPI	Male	Female	GPI
Central Equatoria	10.4%	11.1%	1.08	2.6%	2.9%	1.11
Eastern Equatoria	11.4%	14.1%	1.24	4.9%	5.1%	1.04
Jonglei*	4.1%	4.7%	1.14	4.2%	4.8%	1.14
Lakes	6.8%	9.8%	1.46	2.8%	3.7%	1.30
Northern Bahr el Ghazal	8.5%	10.7%	1.25	4.2%	4.5%	1.07
Unity*	8.4%	10.2%	1.22	0.9%	1.2%	1.30
Upper Nile*	6.4%	6.4%	1.01	1.5%	1.6%	1.08
Warrap	6.6%	9.0%	1.35	4.7%	5.1%	1.07
Western Bahr el Ghazal	8.0%	10.5%	1.32	3.1%	3.9%	1.24
Western Equatoria	11.5%	12.7%	1.10	6.0%	6.0%	1.01
South Sudan	8.1%	10.1%	1.25	3.6%	3.8%	1.08
South Sudan w/o GUPN	9.1%	11.0%	1.21	8.4%	4.0%	0.47
Minimum	4.1%	4.7%	1.01	0.9%	1.2%	1.01
Maximum	11.5%	14.1%	1.46	6.0%	6.0%	1.30
Gap	7.4%	9.4%	0.45	5.1%	4.9%	0.30

Source: MoEST, 2008–2015. Authors' computations. Note: *Under-covered EMIS states.

Figure 2.9. Share of repeaters in primary schools, various countries, 2015 or most recent year (%)



Source: IIEP Pôle de Dakar, 2015.

2.5.2 Early dropout generates major (public and private) efficiency loss

In 2015, 75%⁵³ of primary resources were wasted following early dropout and repetition. In secondary, the level of waste was much lower at 54% (100% to 46%). Major waste is caused by early dropout. This results in a situation where 31 years are needed, on average, for a student to graduate from primary instead of eight. At secondary, 8.7 years are necessary instead of four. However, the situation has improved since 2009, when the global internal efficiency coefficient (IEC) stood at 11% in primary, indicating that 89% of resources were wasted following early dropout and repetition.

Table 2.14. Internal efficiency coefficient (IEC) and related partial indicators, primary and secondary, 2015 (%)

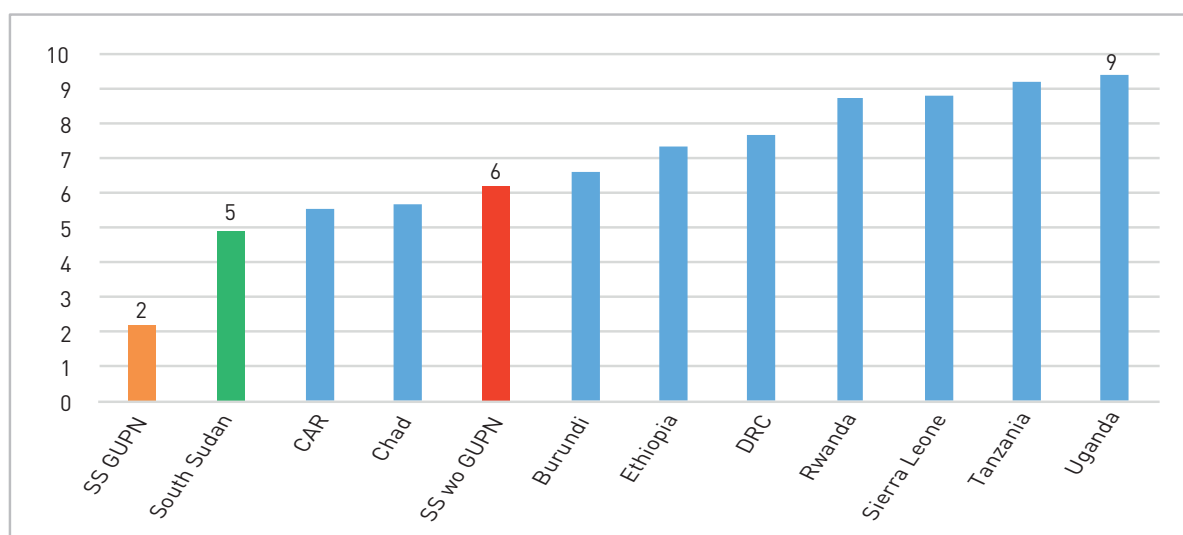
	Global IEC	IEC – dropout	IEC – repetition
Primary	25	28	91
Secondary	46	48	96

Source: MoEST, 2008–2015. Authors’ computations.

2.5.3 School life expectancy is among the lowest in Africa

School life expectancy measures the total number of years of schooling that a child can expect to receive given current schooling patterns. On average, a South Sudanese child can expect to receive a total of five years of schooling under current schooling patterns, compared with 7.7 years for the average of Africa countries in our sample. In non-GUPN states, the average number of schooling has reached 6.2 years against 2.2 years in GUPN states, indicating that the conflict is heavily jeopardizing the development of human capital in affected areas.

Figure 2.10. School life expectancy, comparable countries, 2008–2015 (number of years of schooling)



Source: IIEP Pôle de Dakar, 2015.

2.6 Why are children not in school? Supply and demand issues

Both supply-side and demand-side factors can provide reasons for the non-attendance of children in school or students who drop out once enrolled. Children may not enrol because there is no school nearby or because of cultural, social or economic constraints. Similarly, children may drop out of school because of the financial burden, because their school does not offer the next grade or because the quality of teaching offered is too poor. The policies to be implemented will vary depending on the diagnosis. This section aims to untangle the main factors at stake in school access and retention, mainly at the primary level.

53. The level of waste is 100% minus the IEC (in this case, 25%). The closer this number is to 100, the fewer resources are wasted.

2.6.1 School supply

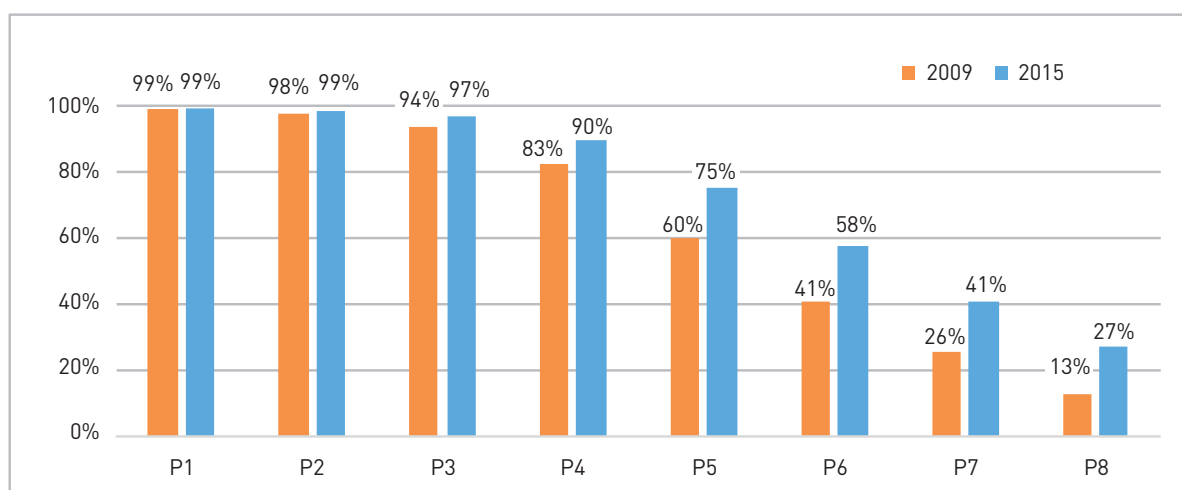
On the supply side,⁵⁴ numerous variables can be taken into consideration when analysing the different causes that act as deterrents to enrolment. Distance to school and grade continuity (the school offers all grades) are two variables usually used as proxies for the supply of primary education. While the former can have an important impact on access, the latter is expected to impact retention. While only limited data are available to assess issues of distance to school, EMIS data permits an analysis of school continuity.

Few primary schools offer all eight grades

The existence of schools offering all grades that allow pupils to complete a full primary cycle within the same institution can be an important factor in primary retention. Where schools do not offer all grades (referred to here as *incomplete* schools), pupils are obliged to seek out an alternative institution to continue their education. In many cases, this places children at risk of dropping out, as second-choice schools will invariably be less accessible.

The share of primary schools offering a given grade decreases from one grade to the next. While 99% of primary schools offer P1, 75% offer P5, and only 27% of schools offer P8 (Figure 2.11). Between 2009 and 2015, the share of schools offering a given grade increased, which is encouraging. The lack of qualified teachers at upper primary grades was identified as a major constraint for their development. Limited capital expenditures also prevented schools from expanding to full grades.

Figure 2.11. Share of schools offering a given grade in primary, 2009 and 2015 (%)



Sources: World Bank, 2012; MoEST, 2008–2015. Authors' computations.

Large disparities exist in the provision of education supply across counties

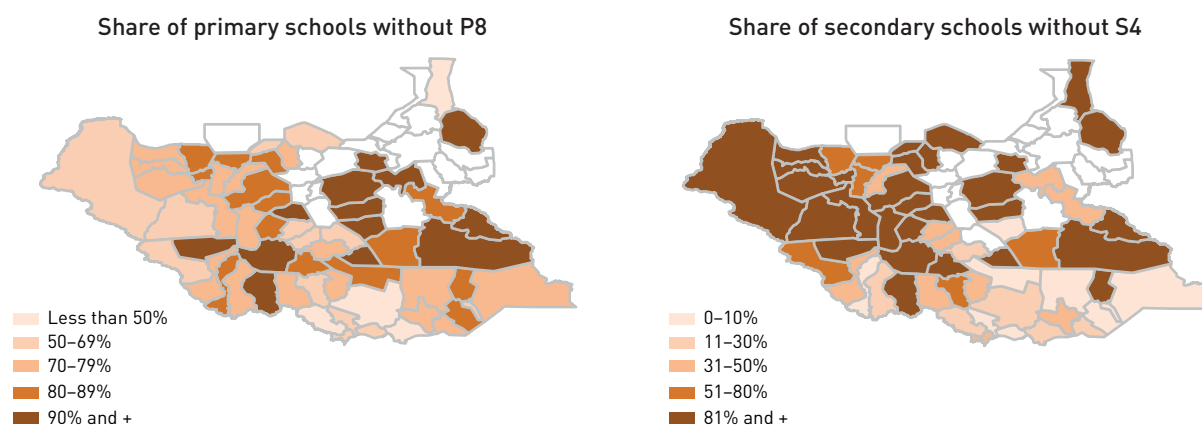
Not surprisingly, many counties (mainly rural ones) do not offer P8. Beyond the lack of qualified teachers, low population density in certain areas – meaning scattered and few school-age children – could make classes too expensive. Up to now, no measures exist to set up multi-grade classes (consisting of two or more grades in one class) that could allow small numbers of upper-grade pupils to remain in school.

At secondary level, the situation is even more critical. Secondary schools are not available in all counties, and when one exists it is usually located in an urban area, resulting in rural areas being left behind. Lack of S4 is particularly severe in northern counties (Figure 2.12). This situation could be related to the fact that many schools still offer the Sudanese curriculum comprising three years of secondary (see Section 4.2.1 and Figure 4.6). This is linked to difficulties encountered in locating qualified English-speaking teachers following the recent introduction of the English-speaking South Sudanese curriculum.⁵⁵ As is the case with primary, lack of adequate capital spending also limits secondary school development.

54. Supply-side factors include distance to school, school completeness (offering the whole grades), school calendar, state of infrastructure, and availability of equipment, to name a few.

55. Until the introduction of the South Sudanese curriculum (in 2006), various four-year curricula from neighbouring countries (including Ethiopia, Kenya, Sudan, and Uganda) were used and taught in English, as well as the Sudanese three-year curriculum, which was taught in Arabic (particularly in the Northern counties, given the geographical proximity to Sudan). These curricula are still operational, as full implementation of the new curriculum (which began in 2007) is ongoing.

Figure 2.12. Share of schools without a given grade, by county, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations.

Grade discontinuity is placing pupils at high risk of early dropout

By increasing distance to school, school discontinuity favours early dropout, according to head teachers who highlighted long distance to school in 12% of cases at primary and 8% of cases in secondary to explain early student dropout (see *Table 2.16*).

In 2015, 73% of primary schools enrolling 58% of pupils did not offer all eight grades (see *Table 2.15*). While this can place pupils at risk of dropping out, the risk can be mitigated if schools ensure grade continuity by making the missing grades available from one school year to the next, effectively expanding their grades according to pupil needs.

Between 2013 and 2015,⁵⁶ 41% of pupils attended schools that did not offer the next grade. This corresponds to 550,000 pupils potentially at risk of dropping out early from school. Most of these children (387,000) were found in GUPN, with 60% of pupils in Jonglei and 96% of pupils in Unity not benefiting from grade continuity between 2013 and 2015. Closure of many schools following insecurity and violence could account for this situation (see *Box 2.2*). In non-GUPN states, the share of pupils in schools without grade continuity is much lower at 19%, which corresponds to 163,000 pupils. It should be noted that two school years were lost for pupils who could not relocate.

Table 2.15. Primary school discontinuity and related enrolment, by state, 2015 (%)

	% of incomplete schools in 2015	% of pupils in incomplete schools in 2015	% of pupils with no grade continuity over 2013–2015
Central Equatoria	53.5	26.8	13.4
Eastern Equatoria	68.2	48.6	19.2
Jonglei*	92.1	87.8	59.0
Lakes	77.5	59.7	20.2
Northern Bahr el Ghazal	80.9	65.7	21.3
Unity*	78.3	52.8	95.7
Upper Nile*	74.6	78.3	91.0
Warrap	78.8	68.3	19.0
Western Bahr el Ghazal	64.4	44.8	23.5
Western Equatoria	76.1	55.8	24.1
South Sudan	73.5	58.2	41.4
Without GUPN	71.6	53.6	19.4

Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

56. Grade continuity is usually assessed over two consecutive years. Since no EMIS data collection occurred in 2014, the analysis was conducted over 2013–2015.

Box 2.2. Schools under attack

Attacks against schools have persisted throughout the war. While they became less frequent after the signing of the Comprehensive Peace Agreement in 2005, some school buildings were damaged, looted or destroyed during 2009–2012 as a result of inter-communal violence, Lord Resistance Army (LRA) activity, and incursions along the contested border with Sudan. This phenomenon has worsened since the outbreak of conflict in December 2013. Forty-nine primary schools were recorded as damaged or destroyed in Unity and 108 in Jonglei. Across all states except Upper Nile, for which no data were available, 331 schools were recorded as damaged or destroyed, corresponding to 10% of operational schools in 2015 (SSEC, 2016).

Attacks on schools are sometimes associated with direct attacks on students, teachers, and other education personnel, resulting in death, casualties and, in some cases, abduction. Indeed, schools have been used as sites for child recruitment by all parties (Sudan People's Liberation Movement/Army [SPLA], opposition army groups including the Sudan People's Liberation Army in Opposition [SPLA-IO] and the White Army). Credible anecdotal testimonies assert that 425 children were recruited by the military in December 2013 (245 from Rubkona Solo Secondary School and 180 from Rubkona Primary School).

Occupation of schools by the army and IDPs is also commonplace, frequently in agreement with the local authorities. Schools are used either for temporary barracks or accommodation or as a base for operations against rebels, militia, or in response to inter-communal violence. Occupation is generally temporary, but some schools have been used for up to five years. While military use of schools has not resulted directly in any reported fatalities or injuries among children, it does necessitate partial or complete closure of the school. Some anecdotal evidence shows that some schools were used at night by soldiers and in the daytime by pupils. In some cases, children used classrooms where weapons and grenades were stored.

At the end of September 2014, 27 schools were being used by armed actors for military purposes, affecting access to education for almost 10,000 children. By the end of November 2015, the army had occupied 38 schools, while an additional 55 schools hosted IDPs, penalizing the schooling of an estimated 67,700 children. The vast majority of these schools (76 out of 93) were located in GUPN states. Several military directives have been issued ordering SPLA units to vacate schools, including a punitive order issued in August 2013, reinforced in September 2014 (Watchlist, 2015). Following poor enforcement, the SPLA issued another order in August 2015 prohibiting its forces from recruiting and using children or occupying and using schools in any manner. In May 2014, the SPLA-IO also signed a similar commitment, with mitigated effects. At present, continuous advocacy has resulted in 59 schools being vacated.

South Sudan is committed to ensuring its education system remains free from violence, shown by the legal instruments at its disposal. The Child Act, passed in 2008, makes special reference to protecting education from attack. More recently, MoEST issued a 'Communiqué on Learning Spaces as Zones of Peace', signed in November 2014, and on 23 June 2015 it endorsed the Safe Schools Declaration, which was then integrated into the draft General Education Policy Framework (2015). However, the Ministry faces major challenges to implementing these directives, notably ongoing conflict in many parts of the country, insufficient funding and awareness of legal instruments/policies, and the inaccessibility of remote areas.

The Safe Schools Declaration provides states with the opportunity to express broad political support for the protection and continuation of education during armed conflict, and enables them to endorse and commit to implementing the Guidelines for Protecting Schools and Universities from Military Use during Armed Conflict. The Declaration was opened for endorsement at the Oslo Conference on Safe Schools, convened by the Norwegian Ministry of Foreign Affairs on 29 May 2015. In endorsing the Declaration the government also commits to collecting data on attacks, ensuring continued education during conflict, and working with partners such as the UN Security Council on the issue of children and armed conflict to prevent and respond to attacks on education.

Sources: GCPEA, 2014; UNSC, 2014; UNICEF, 2015.

2.6.2 Demand issues

Although supply-side factors have a major impact on school access and retention, demand-side factors also affect schooling patterns. Schooling costs, whether direct (e.g. fees, transportation, meals, education inputs, uniforms) or related to the opportunity cost of education (e.g. forgone family income derived from children's participation in household or productive activities) may restrict the ability of households to send their children to school. They may also favour early dropout, especially when the perceived benefits associated with schooling tend to decrease as

costs surge. Some school characteristics (e.g. curricula, quality of teaching, school environment) might also increase reluctance among parents to send their children to school. Such demand-side factors are examined in this section.

Poverty is a major factor in school dropouts according to head teachers

EMIS collects information on reasons given for student dropouts according to head teachers (Table 2.16). Difficulty paying registration fees, cited in 20% of cases, is a major constraint on pursuing school for both girls and boys. In addition, schools may raise other charges including examination fees, PTA and SMC costs, and school development funds. These costs add to existing expenses including uniforms, exercise books, and numerous other related costs associated with schooling (see Figure A2). Alleviating such costs is crucial given the high poverty levels in South Sudan. The conditional cash transfer programme targeted at girls, and currently supported by DFID, is a positive measure in this regard.⁵⁷

Table 2.16. Major reasons for student dropouts according to head teachers, by gender, primary and secondary, 2015 (%)

	Primary			Secondary		
	Male	Female	Total	Male	Female	Total
Economic reasons	24	22	23	23	16	20
Unable to pay fees	20	20	20	21	15	18
Looked for or found paid work	4	2	3	2	1	2
Family and personal reasons	30	35	33	38	52	44
Family or personal problem	12	11	11	13	10	12
Moved/displaced	9	8	9	10	5	8
Marriage/pregnancy	2	12	7	5	32	17
Prolonged illness, sickness	4	4	4	4	3	4
Joined military/sent to prison	3	1	2	6	2	4
School related	17	15	17	19	13	16
Long distance to school	12	11	12	9	7	8
Learning very hard	3	3	3	8	4	6
Course did not meet needs	2	2	2	2	2	2
Other/Do not know	28	27	28	19	19	19
Total	100	100	100	100	100	100

Source: MoEST, 2008–2015. Authors' computations.

Early marriage and pregnancy are also critical factors in school dropouts among female students. These reasons are cited in 32% of cases at secondary level.⁵⁸ Furthermore, most girls do not return to school once they enter into motherhood. Cases of enrolment in the military are cited in 3% of primary cases and 6% of secondary cases for boys (corresponding to 1,083 males), although enrolment also concerns girls (see also Box 2.3).

Insecurity and related issues also deter pupils from attending school

Information from household heads drawn from the High Frequency Survey, carried out in Juba, Wau, and Rumbek in September 2014 by the National Bureau of Statistics and the World Bank, also cites insecurity and related issues as major deterrents to attending school.

57. Cash transfers enable families to send girls to school by offsetting some of the direct and indirect cost barriers to education. They are conditional, however, on school enrolment and attendance. See footnote 48.

58. According to the SSHHS (MoH, NBS, and UNICEF, 2013), 31% of girls aged 15–19 years old already had a child or were pregnant, and 40% were married or in an union in 2010. This situation may have remained unchanged.

Box 2.3. Child soldiers

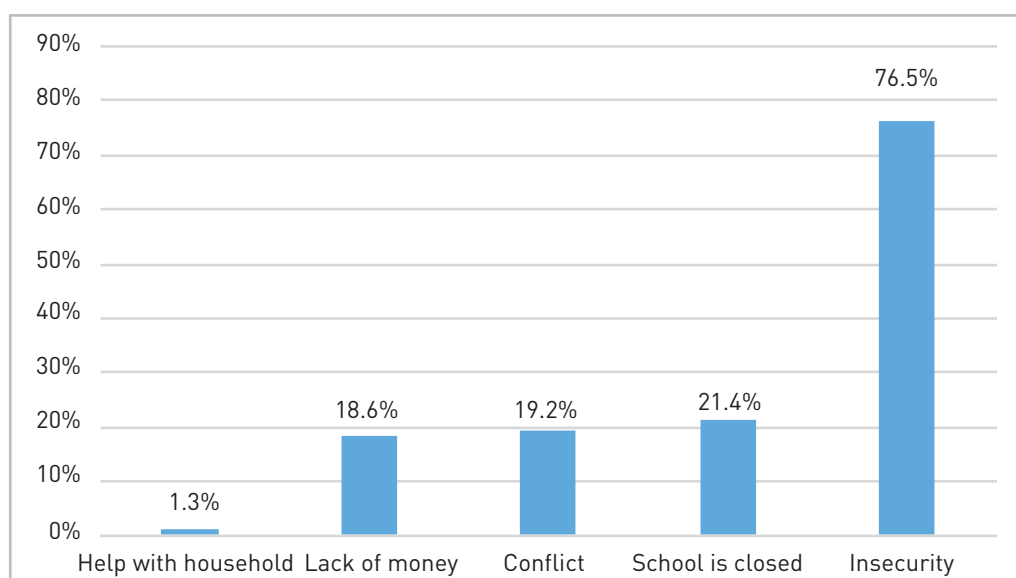
Between March 2011 and September 2014, 171 incidents were reported of the recruitment and use of children in conflict. These incidents affected 3,731 children (including 29 girls) of which 1,219 cases were verified. While there are issues of underreporting, there are strong presumptions that the number and scale of these incidents has increased since the outbreak of conflict in December 2013. UNICEF estimated that 13,000 children and youth had been recruited by the military in GUPN states as of May 2015 (UNICEF ESARO, 2015). Girls are also recruited and used by armed forces/groups, and are particularly vulnerable to rape and other forms of sexual violence.

Children have been recruited into armed forces and groups in a variety of ways including through coercion, abduction, and joining of their own volition. In particular, children are at risk of recruitment in refugee camps, IDP camps, PoC sites, and within their own communities. While various reasons account for this situation, the lack of opportunities for education and alternative livelihoods increase vulnerability and the risks of recruitment. As a result, investment in vocational training and support for a reintegration package that addresses children's individual needs is urgently needed. Furthermore, it is important to note that the proliferation of small arms and easy access to weaponry has compounded this problem.

Various directives to refrain from the recruitment and use of children have been issued; nevertheless, implementation has been uneven and heavily flawed.

Source: UNSC, 2014; Watchlist, 2015.

Figure 2.13. Reasons provided by household heads for explaining the non-enrolment of children, in Juba, Wau, and Rumbek, September 2014 (%)



Source: Pape and Kariuki, 2015.

Disability may be a major factor in non-enrolment

Another reason for non-school enrolment might be disability. According to data on types of impairment among primary pupils, recorded by head teachers for the EMIS 2015, approximately 21,300 of primary pupils were suffering from an impairment, representing 1.7% of all enrolled primary pupils (Table 2.17).⁵⁹ This figure is well below the estimated international average of 5% produced by the World Health Organization. This low figure may be due to under-reporting by teachers, as a result of inability to adequately assess impairment, or to the fact that many children with disabilities are out of school. No data are available on the latter issue.

59. The prevalence is 2.2% in pre-primary (2,386 pupils), 2.7% in AES (3,870 pupils) and 3% in secondary (1,972 students).

Table 2.17. Type of impairment recorded among primary pupils by head teachers, 2015

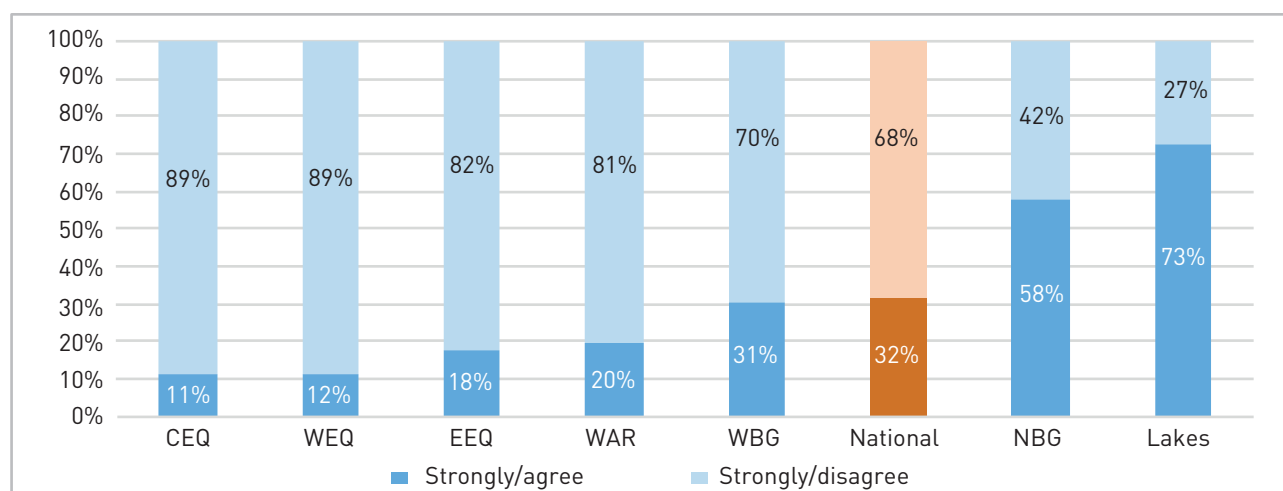
	Number	%
Poor vision	5 103	24
Complete blindness	179	1
Partial deafness	2 855	13
Complete deafness	522	2
Physical impairment	2 254	11
Mental impairment	1 400	7
Learning disability	4 849	23
Behaviour challenge	4 109	19
Total	21 271	100

Source: MoEST, 2008–2015. Authors' computations.

The *2014 Draft National Inclusive Education Policy* (MoEST, 2014) lists three main barriers preventing people with disabilities from accessing education: (i) long distances to school (84% of cases), (ii) negative attitudes (52%), and (iii) lack of teacher experience (42%). Teasing and bullying were mentioned in 24% of cases. MoEST with the support of NGOs is currently working on ways to improve access and teaching conditions for children with disabilities (including sensitization campaigns, and teaching and learning materials sensitive to special needs pupils).

In certain states, a strong bias against female education is prevalent at school and in the community

Another major issue affecting demand for schooling and particularly girls' schooling is the prevailing bias against female schooling in certain states. The *GESS School Baseline Households Survey Final Draft Report*⁶⁰ (GESS, 2014b) includes data on the share of teachers and head teachers who agree that boys are better suited to higher education than girls (Figure 2.14). While most teachers and head teachers (two-thirds) would disagree or strongly disagree that boys are better suited to higher education than girls, a perceptible difference in attitudes is highlighted when responses are disaggregated by state. Indeed, more conservative attitudes towards female schooling are observed in Lakes and Northern Bahr el Ghazal and, to a lesser extent, in Western Bahr el Ghazal. In these areas, females are generally viewed as a source of wealth for families (dowry payments and relocation of the girl to her husband's family once married). Early marriage is also favoured to reduce the risk of premarital sexual activity or contact. Less traditional views are found in Central and Western Equatoria, with the vast majority of teachers and head teachers (88% and above) disagreeing with the fact that boys are better suited than girls to higher education

Figure 2.14. Share of teachers and head teachers who agree that boys are better suited to higher education than girls, by state, 2014 (%)

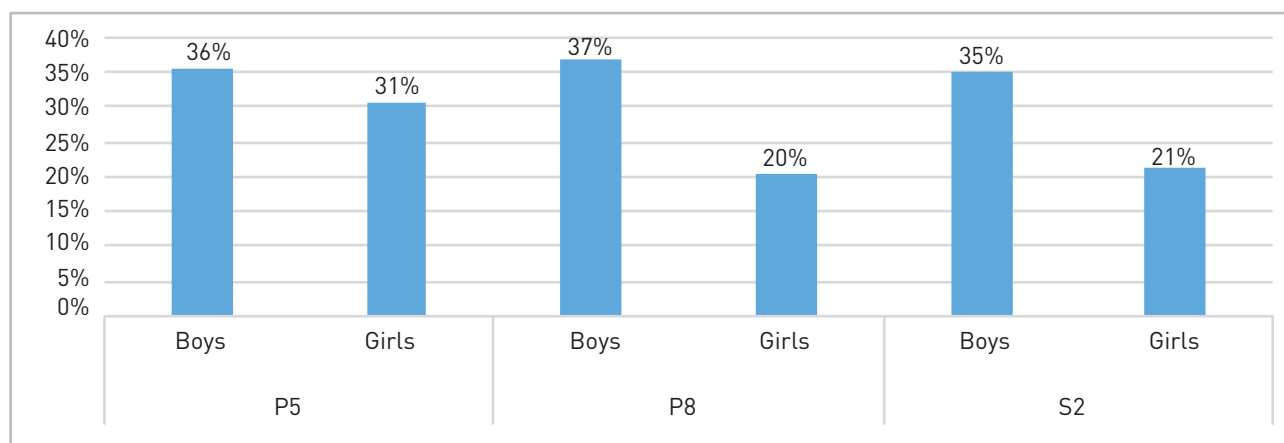
Source: GESS, 2014b.

Note: Based on the responses of 493 teachers/head teachers.

60. The survey predominantly collected information in 7 out of 10 states, with very few schools surveyed in GUPN for security reasons. A total of 151 primary and 47 secondary schools were surveyed involving a total of 214 head teachers and 297 teachers, and 593 P5, 297 P8, and 255 S2 students. In non-GUPN states, the respective figures were 206 head teachers, 287 teachers, 582 P5, 290 P8, and 248 S2 students (GESS, 2014b).

While this general belief holds for teachers and head teachers, it also holds true for students, with the majority disagreeing with the statement that boys are better suited than girls to higher education. Indeed, responses to the same GESS survey from male and female students in various grades (P5, P8, and S2) show that pupils, whether boys or girls, tend globally to disagree with the statement that boys are better suited to higher education than girls (Figure 2.15). It is noticeable, however, that while levels of male agreement stayed fairly constant across the grades, levels of female agreement decreased the further they progressed in school, suggesting greater attitudinal and aspirational change among female students: 20% of P8 and S2 female students think girls are not as suited as boys to higher education compared with 31% among P5 female students. This could be attributed to increased interest and confidence being built up over primary schooling.

Figure 2.15. Share of students who agree that boys are better suited to higher education than girls, by gender and grade, 2014 (%)

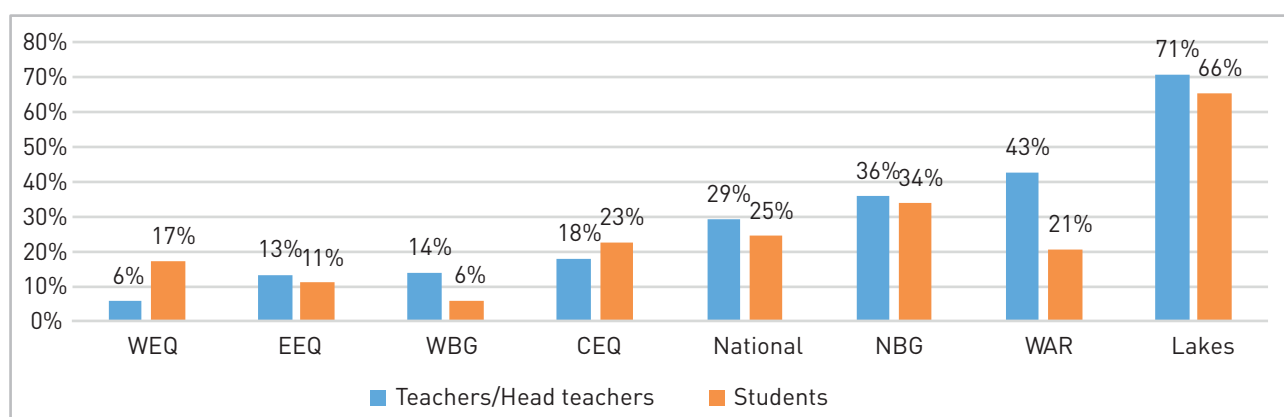


Source: GESS, 2014b.

Note: Based on the responses of 593 P5, 297 P8, and 255 S2 students.

Student and teacher responses offer an insight into parental attitudes toward girls' education and suggest that parents in certain states do prioritize boys over girls in terms of educational investment. This trend is particularly strong in Lakes, where 71% of teachers and 66% of students agree that parents prioritize sending boys over girls to school. It is also quite pervasive in Warrap and Northern Bahr el Ghazal, which are known to hold more traditional views of gender roles.

Figure 2.16. Share of teachers/head teachers and students who strongly agree that parents prioritize sending boys over girls to school, by state, 2014 (%)



Source: GESS, 2015b.

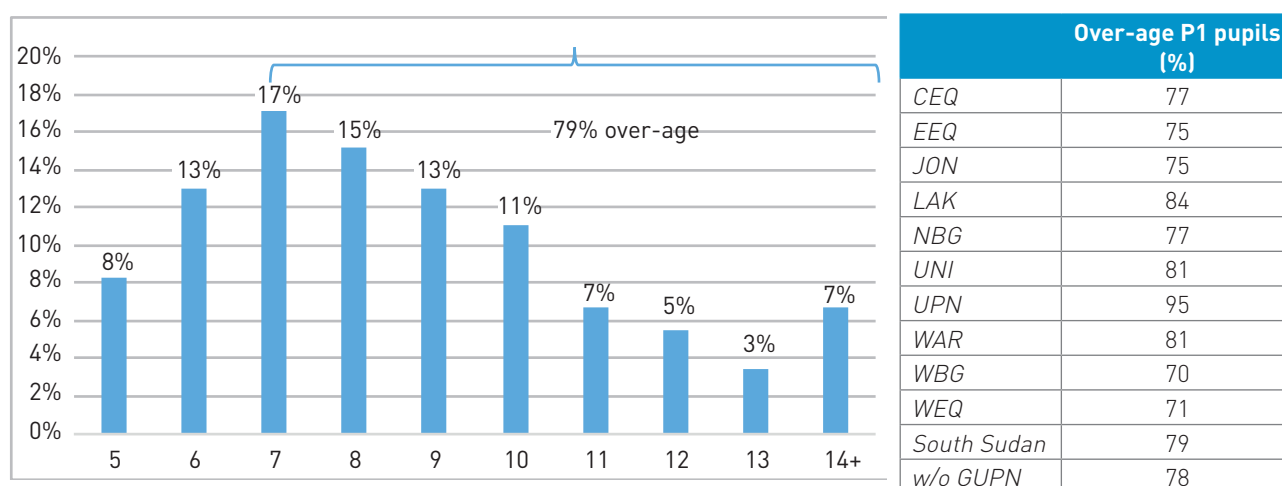
Note: Based on the response of 493 teachers/head teachers and 1,120 students.

Strong biases against girl's education prevail in certain northern states. Cultural beliefs and perceptions among the school community, students, and parents shape schooling choices, in some cases to the detriment of girls. To tackle this issue, MoEST has recently developed a national girl's education strategy that provides a framework of action to remove various barriers (social, school-based, and policy and system-based) preventing girls from obtaining an education. It is based on eight strategies: (i) advocacy for affordable education; (ii) social sensitization and mobilization; (iii) gender-sensitive curricula; (iv) professional development of teachers, especially female teachers; (v) improvement of child-friendly school standards; (vi) policy development and strengthening of legal frameworks; (vii) strengthened capacities in education planning, supervising, service delivery, and monitoring; and (viii) partnerships.

Late entry to primary school is a major problem

In 2015, 79% of P1 students were over-age (7 years old and older) and were, on average, 9 years old (Figure 2.17). Data disaggregated by sex show that this phenomenon affects males and females equally (not shown).

Figure 2.17. Distribution of P1 pupils by age, and over-age* children, by state, 2015 (%)



Source: MoEST, 2008–2015. Authors' computation.

Note: *7 years and older.

Incidence of over-age students is highest in Upper Nile, Lakes, and Unity (between 81% and 95%). Starting school on time might be difficult in conflict-affected areas, as well as in Lakes where internal population movements routinely follow grazing practices. Another hypothesis often seen in countries facing a high level of stunting⁶¹ is that parents wait for children to be more robust before sending them to school. Lastly, prevalence of over-age children at pre-primary and lack of learning spaces in P1 might further drive up the age of P1 pupils.

Since the opportunity costs of staying at school increase with age following increased demand for work, and marriages and early pregnancies for girls, over-age pupils are therefore more likely to drop out early from school. Efforts to ensure pupils enter school on time will play a decisive role in reducing dropout in South Sudan.

2.6.3 Out-of-school children

Information on out-of-school children (often referred to simply as out-of-school) is derived from the EMIS 2015, relying on UIS/UNICEF methodology.

Lack of access, associated with late entry and early dropout, results in high numbers of out-of-school children and youth. In 2015, 62% of children of primary school age (1.37 million children) and secondary school age (630,000 children) were estimated to be out of school. Incidence is particularly high in the GUPN states where, on average, 82% of children and youth were out-of-school, following the closure of many schools due to conflict. Related insecurities might also deter children from attending school even when these are operational, as noted earlier.

Lack of education, training or employment opportunities in conflict-affected areas may make young people particularly vulnerable to recruitment by armed forces. The risk is real: according to UNICEF ESARO (2015), government and opposition forces had recruited and abducted 13,000 children and youth as of May 2015. Ensuring that alternative education and employment opportunities are offered to dropouts in conflict-affected areas should therefore be a priority.

61. Characterized by low height-for-age. As noted in *Chapter 1, Section 1.3*, stunting among children aged under 5 reached 31% in 2010 (MoH, NBS, and UNICEF, 2013).

Table 2.18. Number of out-of-school children, by level and state, 2015

	6–13 years old		14–17 years old	
	Number	%	Number	%
Central Equatoria	124 217	45	60 802	48
Eastern Equatoria	162 825	67	80 161	71
Jonglei*	273 950	75	131 989	78
Lakes	96 245	54	44 540	51
Northern Bahr el Ghazal	98 359	44	30 080	32
Unity*	155 458	85	62 588	81
Upper Nile*	218 515	87	109 233	92
Warrap	140 075	51	57 456	46
Western Bahr el Ghazal	29 320	33	11 387	30
Western Equatoria	71 003	52	40 515	61
South Sudan	1 369 966	62	628 751	62
GUPN	647 922	81	303 810	83
Without GUPN	722 044	51	324 941	50

Sources: MoEST, 2008–2015; NBS (2015) population projection, smoothed. Authors' computations.

Note: *Under-covered EMIS states.

2.7 Key results

Enrolment has increased in most sectors, but has been seriously affected by the conflict, especially at primary level. Enrolment increased from 2008 to 2015, and was particularly high in pre-primary and secondary education with an annual growth rate of 19% and 15%, respectively. Growth was fuelled by very low initial levels of enrolment, but may also be attributed to a catch-up phenomenon in pre-primary and growing pressure from primary on secondary as more children complete the cycle. Enrolment at primary level has experienced the lowest rate of increase (1.2%) and has declined steadily since 2010. This is due to the critical situation in the GUPN states, where an estimated 400,000 previously enrolled children did not attend school. Fragility in the GUPN region is therefore negatively affecting development of the sector as a whole.

The non-government sector is driving enrolment growth by increasing school supply. In 2015, the role of the non-government sector in provision of schooling was quite substantial in South Sudan, enrolling between 28% of pupils in primary (mostly not-for-profit providers) and 72% in pre-primary. Much of the current dynamic in enrolment can be attributed to the non-government sector which, in many instances, has led to the loosening of supply constraints, especially in conflict-affected areas, thereby sustaining enrolment.

Conflict is negatively affecting schooling coverage, thereby jeopardizing the development of human capital. While schooling indicators progressed over 2009–2015 in non-GUPN states, they deteriorated strongly in GUPN states, affecting overall coverage levels. In primary, the GER decreased from 72% to 56% (from 81% to 62% if ALP and CGS programmes are included), and halved in AES to reach 1,282 learners per 100,000 inhabitants in 2015. A massive drop in higher education coverage has also been recorded. Nevertheless, TVET and secondary seem to have been protected from the effects of the conflict due to their urban-based location, remaining quite stable over the period at 43 TVET learners per 100,000 inhabitants and a secondary GER of 6.5% in 2015.

Universal primary education (UPE) remains a major challenge. Not all children have access to primary education: the gross intake rate in 2015 was 96% (116% in non-GUPN states) compared with 145% in 2009. Only 14% of pupils complete P8, with severe dropout throughout the cycle, particularly between P1 and P2. Few children benefit from pre-primary (only 10%) and many are therefore not 'ready for school', which may contribute to this situation.

Availability of AES and TVET is too limited given the massive schooling needs of out-of-school children. Alternative education system programmes such as ALP and CGS are contributing to UPE, but have not been provided in all states/counties and remain insufficient given the high number of out-of-school children and youth. In this regard, provision of TVET is also too limited and is often not tailored to local needs.

Fighting early dropout will be critical, as this represents the major source of resource wastage. Repetition is less of an issue with only 9% of primary pupils repeating grades, but could be further reduced.

Disparities have decreased but remain high between boys and girls and start at entry to primary. Disparities accumulate throughout the primary and secondary cycles, and widen from P1 to university. Access to primary remains a major issue for girls, as this is where major disparities are generated.

The education system is also marked by important disparities between and within states in provision of schools and enrolment coverage. The situation is particularly critical in the northern states and risk-affected areas.

In 2015, the number of out-of-school children was estimated at approximately 1.37 million for primary and a further 630,000 for secondary, amounting to 62% of the respective school-age groups. Most of these children were in conflict-stricken areas. While access remains an issue, late entry is a strong factor. In 2015, 79% of new entrants to P1 were aged 7 years and above.

School life expectancy is particularly low, especially in conflict-affected states. On average, a South Sudanese child can expect to receive a total of five years of schooling under current schooling patterns, varying from 6.2 years in non-GUPN states to 2.2 years in GUPN states. The conflict is therefore heavily jeopardizing the development of human capital in affected areas.

Demand-side issues contribute heavily to non-enrolment and early dropout. Poverty is a key factor in preventing parents from sending their children to school. A strong bias against girls' schooling prevails in some northern states, especially Lakes, Warrap, and Northern Barh el Gazal, where females tend to be viewed as a source of wealth for the family following dowry payments and relocation of the girl to her husband's family once married. Early marriage is also favoured to reduce the risk of sexual activity or contact before marriage. Early pregnancies are common and negatively affect girls' schooling, as many do not return to school once they enter into motherhood. Late entry is pervasive and increases the risk of early dropout, as opportunity costs increase with age.

Supply-side constraints are also a factor. Many primary schools (73%) do not offer all eight grades, placing numerous pupils at high risk of dropping out of school. Over 2013–2015, 41% of pupils attended schools that did not offer the next grade. This percentage corresponds to 550,000 pupils potentially at risk of dropping out early from school. Most of these children (390,000) are found in the GUPN states. Closure of many schools could account for this situation. In non-GUPN states, the corresponding share of pupils facing no grade continuity is much lower, at 19%, which corresponds to 163,000 pupils potentially at risk of early dropout. In addition, not all counties have a secondary school, and in those that do, the school is located near urban centres. Overly long distances to school are also limiting access.

Disabled and pastoralist children may have fewer schooling opportunities. Insecurity and related factors also affect enrolment opportunities.

3. Cost and financing

Government efforts in South Sudan to meet the growing education needs of the population have been constrained by the country's macroeconomic capacity. This dilemma is clearly evident in education cost management and financing, the subject of this chapter. The following cost and financing analysis consists of three complementary sections. The first section analyses trends in global education financing including donor and humanitarian contributions, the second section explores the nature and composition of public education spending in detail, and the third section examines the structure of education unit costs in 2013/2014. Household spending has been omitted for reasons of data unavailability, as the last household survey – the principal source of information – was conducted in 2010.

The analysis covers the 2009–2014/2015 period, where possible. Detailed budget and unit cost analyses have been carried out on 2013/2014 fiscal year data, as these were the last detailed data available on outturns at the time of analysis (last quarter of 2015). Where relevant, data for 2009 from the former ESA (World Bank, 2012) are given to enrich the analysis.⁶²

3.1 Recent trends in education spending

3.1.1 Global trends in government education spending

During the first five years of the country's existence the education sector was managed by the Ministry for General Education and Instruction (MoGEI) and the Ministry for Higher Education, Science, and Technology (MoHEST), before being united under one ministry, the Ministry of Education, Science, and Technology (MoEST).⁶³ Table 3.1 presents education expenditure using 2009 as baseline.

Table 3.1. Government education expenditure, outturns, 2009–2014/2015 (SSP million and %)

	2009	2011/2012	2012/2013	2013/2014	2014/2015
Total education expenditure					
Current prices (SSP million)	234.1	448.5	366.8	396.1	543.5
Constant prices (SSP million, 2013/2014)	480.7	475.3	373.9	396.1	519.7
Share of GDP (%)	0.8%	1.1%	1.1%	1.0%	1.3%
Share of total public expenditure (%)	5.5%	4.4%	5.4%	4.4%	4.6%
Recurrent expenditure					
Current prices (SSP million)	227.9	433.5	356.1	380.5	542.8
Constant prices (SSP million, 2013/2014)	468.1	459.4	363.0	380.5	519.0
Share in total recurrent expenditures (%)	7.1%	5.2%	5.7%	5.0%	4.8%
Capital expenditures (SSP million)					
Current prices (SSP million)	6.2	14.9	10.7	15.6	0.7
Constant prices (SSP million, 2013/2014)	12.7	15.8	10.9	15.6	0.7
Share in total capital expenditures (%)	0.6%	0.8%	1.8%	1.0%	0.1%

Source: MoFEP, 2011–2015; 2016a.

Note: Based on outturns and expenditures passing through ministries of education only. The figures do not include state education spending from state block grants, as it was not possible to estimate these amounts for the entire period.

South Sudan is a decentralized country where states are principally responsible for organizing and supervising education services. Accordingly, the public financial resources allocated to education by the central government are transferred to the individual states. The states, in turn, transfer the allocated resources to their respective counties for disbursement. The division of labour between central ministries of finance and education, state ministries of finance and education and local government, and county financial and education departments is clearly stipulated in a number of regulatory documents.

62. See Annex 1 for an overview of data limitations.

63. As the report was being finalized, the MoEST was split into two once more following the creation of the new TGNU in April 2016.

Education spending has reached strikingly low levels⁶⁴

In nominal terms, total education expenditures grew from SSP234.1 million in 2009 to SSP543.5 million in 2014/2015, multiplying by a factor of 2.3. However, when adjusted for inflation, expenditures increased in real terms by a factor of just 1.08. In 2013/2014 prices, education expenditures decreased from SSP480.7 million in 2009 to a low of SSP373.9 million in 2012/2013, corresponding to the introduction of austerity measures following a major drop in oil revenues. Expenditures recovered somewhat the following year, reaching SSP396.1 million in 2013/2014, before increasing sharply over 2014/2015 to 519.7 million. Education represents a mere 5% of the total budget, oscillating around 4.4% and 5.5% over the whole period. This level is well below the national target of 15%.⁶⁵

Public recurrent spending on education fell in constant terms from SSP468 million in 2009 to SSP363 million in 2012/2013, rebounding to SSP380.5 million in 2013/2014 and SSP519 million in 2014/2015, gaining 11% over the period. Relative to the overall recurrent budget spend, the share allocated to education has dropped slightly from 7.1% in 2009 to 4.8% in 2014/2015.⁶⁶

These amounts are shockingly low, way below the international standard of 20% of recurrent expenditure devoted to education. Such low levels are a consequence of the difficult conditions characterizing the birth of South Sudan – following decades of war with neighbouring and former parent country Sudan – which made high spending on security an imperative, a trend that has continued to this day (see *Chapter 1*). However, low levels of education spending are harming the development and functioning of the education sector, which will ultimately jeopardize the human development of generations of South Sudanese, not to mention the future development of the country.

If the share of MoEST expenditure in total government expenditure has been exceedingly low, it is even lower when applied to capital expenditure. Capital expenditure on education peaked at SSP15.6 million in 2013/2014, corresponding to just 1% of total capital expenditure (*Table 3.1*). In 2014/2015 initial outturns estimates, capital expenditure on education is close to zero. This imbalance is made more apparent by the sheer needs of school rehabilitation and construction to improve access to basic education.

While the budget for education is low, actual expenditures on education are even lower than their budgeted allocations. When comparing outturns with approved budgets in both total and education government expenditure, total expenditure outturns tend to be greater than budgets, while the opposite is seen in the case of education expenditure. The amounts budgeted to education are not respected and between 2011/2012 and 2014/2015, education received between 10% and 41% less than its budgeted allocation, even in years when government resources were greater than expected (*Figures 3.1 and 3.2*).

Figure 3.1. Budget versus outturns in government expenditures, 2011/2012–2014/2015 (SSP million)

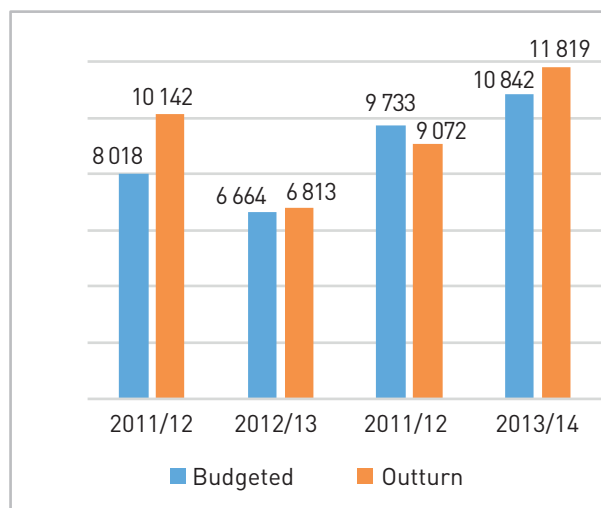
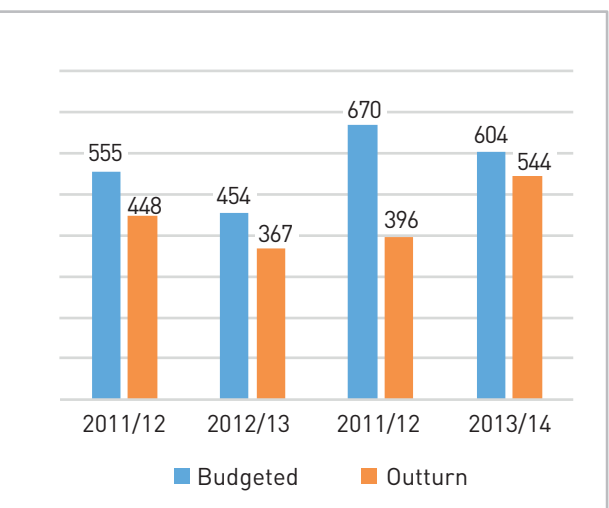


Figure 3.2. Budget versus outturns in education expenditures, 2011/2012–2014/2015 (SSP million)



Source: MoFEP, 2011–2015. Authors’ computations.

64. This section deals with education expenditures from MoEST only. Education expenditures are also generated directly by states through block grants and state revenues. However, it was not possible to capture these amounts for the period analysed. As a result, the analysis tends to slightly underestimate the level of spending going to education. Some estimates of state-level education spending are provided for 2013/2014 (see *Section 3.2.3* below). These were estimated at SSP45.6 million. Assuming that such an amount would also be spent in 2014/2015, the total amount made available to education would be SSP589 million or 5% of the budget.

65. 10% of this target should be allocated to general education according to the General Education Policy Act 2012.

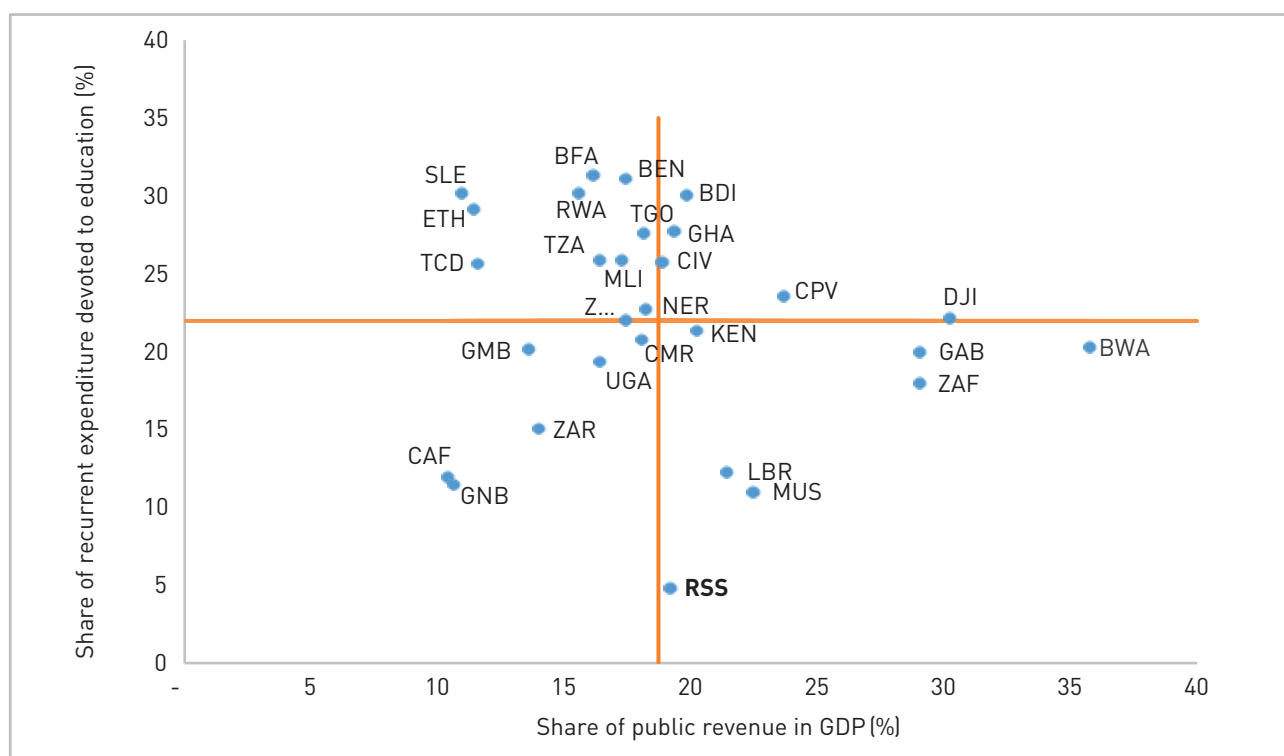
66. Or 5.2% if state-level expenditure estimates of SSP45.6 million are added. See footnote 63.

South Sudan invests poorly in education despite relatively good domestic revenue to GDP ratio

Another way to assess a government’s efforts towards education is to assess the level of education commitment vis-à-vis available domestic resources. *Figure 3.3* shows the distribution of a large number of sub-Saharan African countries with information on the share of public revenue as a proportion of GDP on the x-axis, and the share of recurrent expenditure on education as a proportion of total government recurrent expenditure on the y-axis. The chart divides the space into four quadrants defined by the average values of both indicators.

The top-left quadrant ‘A’ includes countries with a high share of recurrent expenditure devoted to education in relation to public expenditure, but a low share of public revenue in GDP. These countries generate relatively less domestic resources but allocate a large proportion to education. A majority of countries are concentrated here. The top-right quadrant ‘B’ consists of countries with both high shares of public revenue in GDP and recurrent expenditure on education to public recurrent expenditure. The countries in this quadrant are in the best position, as the available resources are more substantial and education receives a higher proportion of revenue. Only four countries are in this position. The bottom-left quadrant ‘D’ groups countries with lower shares of public revenue relative to GDP and low shares of recurrent expenditure on education as a proportion of public expenditure. Finally, the bottom-right quadrant ‘C’ groups countries with high proportions of public revenue relative to GDP and low shares of recurrent education expenditure relative to public recurrent expenditure. This group – of which South Sudan is a member – place a lesser priority on education spending even though they are able to mobilize more resources. South Sudan is not only in the bottom-right quadrant, the one with the lowest priority given to education, it also compares unfavourably with other countries in similar situations. Clearly, there must be a priority shift in favour of education; however, the difficulties involved in such a shift are exacerbated by the ongoing internal conflict and its heavy financial requirements.

Figure 3.3 Share of recurrent expenditure devoted to education and government revenue as a share of GDP, 2015 or most recent year (%)



Source: IIEP Pôle de Dakar, 2015.

3.1.2 External funding for education

As seen in *Chapter 1, Section 1.5*, South Sudan relies heavily on external sources of funding, both development and humanitarian. The level of funding allocated to education is of concern given the low level of public investment.

The education sector relies heavily on external aid

Education received close to \$80 million or 12% of development partners’ disbursement in FY 2014/2015, significantly less than the amount allocated to the health sector, which received \$230 million in funding (MoFEP, 2016b). While not the primary focus of donors, this amount compares with the \$184 million in education spending provided by GoSS,

and comprises 30% of total education expenditure, entailing a high level of dependency on external support and potentially making the system fragile to donor withdrawal.

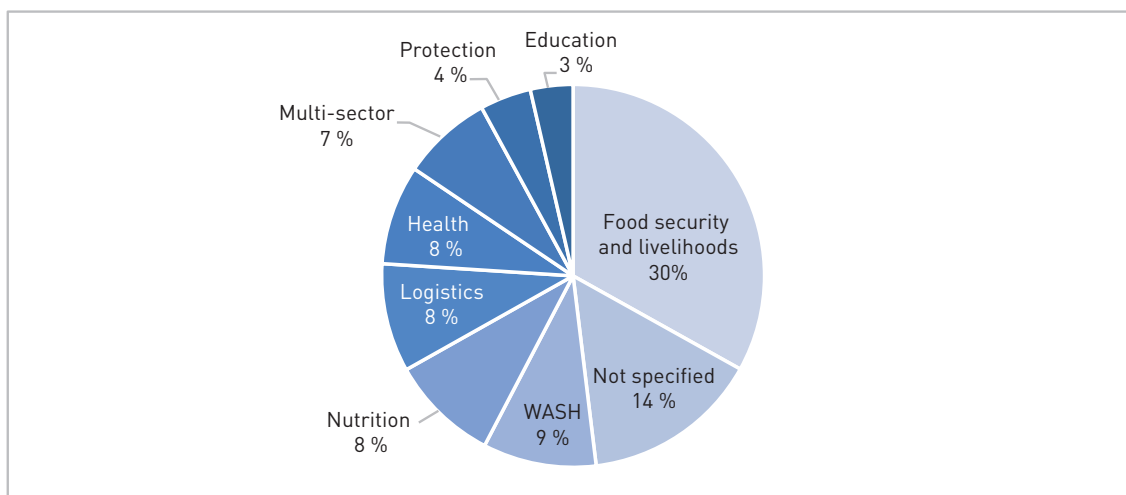
According to the UNICEF ESARO report, bilateral funds accounted for two-thirds of external aid to education in 2013/2014: DFID contributed 55%, USAID supplied 38%, and Canada, France, and Norway accounted for the remaining 5%. One-third of funds were multilateral in origin: UNICEF contributed 90%, the European Union 9%, and other funders accounted for the remaining 1%. Out of the funds, 75% were used to target basic education, while 6% went to AES. Four major programmes absorbed a sizeable share of the funds: Girls Education South Sudan (GESS/DFID), Room to Learn (RTL/USAID), GPE/UNICEF, and the Improved Management of Education Delivery programme (IMED/EU). While the GESS and GPE/UNICEF programmes were still operational in 2015, RTL and IMED ceased operations in late 2015.

Education receives little attention from emergency funding

The majority of emergency funding goes to emergency response programmes related to Water, Sanitation, and Hygiene (WASH) and Food Security and Livelihoods (FSL), while only 3% is allotted to education, below the international benchmark of 4%.

In 2016, the overall estimated humanitarian needs presented in the Strategic Response Plan are \$1.3 billion of which only a very small tranche – \$37 million – will go to education. This low figure results from initial low funding requirements for education and final budget trade-offs in funding allocations not in favour of education, leading to unmet needs (50% on average over 2011–2015). It should be noted that between 80% and 90% of international funding goes through clusters, a parallel funding channel to that of the government which distributes funds to specific programmes by various organizations.

Figure 3.4. Humanitarian funding allocation per cluster in 2015 (%)



Source: OCHA, 2015d. Authors' computations.

This low level of education resources and the recent and rapid deterioration in the macroeconomic and social situation jeopardize past investments in the education sector and represent a major threat to its future development, not to mention the future development of the country. This situation calls for the urgent mobilization of additional resources from both domestic and international sources.

3.2. Detailed analysis of public education expenditure

3.2.1 Public expenditure by type of spending

To further analyse overall public spending on education in South Sudan it is necessary to consider classic expenditure categories (Table 3.2).⁶⁷ Recurrent and capital expenditures have been analysed separately and assessed in terms of the management level where they were implemented (national/central or state/university level). Data were drawn from 2013/2014 outturns available at the time of the analysis. For the fiscal year 2013/2014 it has also been possible

67. Table A11a and Table A12a in Annex 3 provide similar information, respectively, for general education and higher education.

to estimate the share of the state budget allocated to education.⁶⁸ To ensure trend analysis consistency, data for 2013/2014 are presented with and without these states amounts.

Table 3.2. Structure of public education expenditure by nature and management level, 2009–2013/2014 (current SSP million and %)

	2009	2011/2012	2012/2013	2013/2014 w/o S/funds	2013/2014 with est. S/funds
Amount in millions of SSP					
Recurrent expenditures	227.9	433.5	356.1	380.5	426.2
Wages and salaries	179.7	336.8	315.5	303.2	349.0
National	179.7	119.5	17.3	25.7	25.7
Transfers to states/universities	0.0	217.3	298.2	277.6	277.6
From states block grants	–	–	–	–	45.7
Operating expenses	48.3	96.7	40.5	77.2	77.2
National	48.3	95.0	19.1	41.3	41.3
Transfers to states/universities	0.0	1.8	21.5	35.9	35.9
Capital expenditures	6.2	14.9	10.7	15.6	15.6
National	6.2	14.9	10.7	15.6	15.6
Transfers to states/universities	0.0	0.0	0.0	0.0	0.0
Total expenditures	234.1	448.5	366.8	396.1	441.9
Distribution (%)					
Recurrent expenditures	97.4%	96.7%	97.1%	96.1%	96.5%
Wages and salaries	76.7%	75.1%	86.0%	76.6%	79.0%
National	76.7%	26.6%	4.7%	6.5%	5.8%
Transfers to states/universities	0.0%	48.5%	81.3%	70.1%	62.8%
From states block grants	–	–	–	–	10.4%
Operating expenses	20.6%	21.6%	11.1%	19.5%	17.5%
National	20.6%	21.2%	5.2%	10.4%	9.3%
Transfers to states/universities	0.0%	0.4%	5.9%	9.1%	8.1%
Capital expenditures	2.6%	3.3%	2.9%	3.9%	3.5%
National	2.6%	3.3%	2.9%	3.9%	3.5%
Transfers to states/universities	0.0%	0.0%	0.0%	0.0%	0.0%
Grand total	100%	100%	100%	100%	100%

Source: MoFEP, 2011–2015. Authors' computations.

Note: *2013/2014 data include education expenditures from states estimated at SSP45.6 million.

Capital expenditures are reaching critical levels

Capital spending on education has accounted for a meagre share of government expenditure in the period under analysis. It accounted for 2.6% in 2009 and remained low at less than 4% up to 2013/2014.⁶⁹ The detrimental effect of this situation is reinforced by the overwhelming need for increasing school infrastructure in South Sudan. The country has probably the lowest global indicators for education coverage and missed the Millennium Development Goals targets for 2015 by a wide margin.

68. This was possible as a result of a detailed analysis of the 2013/2014 payroll, which highlighted a major shortfall estimated at SSP45.6 million, compared with the figure indicated in the MoEST budget (consisting of salaries). The shortfall is covered by funds available at state level, mainly from state block grants but also from state revenues. This situation is a consequence of the fact that many staff, especially unclassified/support staff (e.g. cleaners, drivers, cooks) and non-active teachers (e.g. following institutions/schools closure, retirees) appear on the payroll erroneously, and as such are not accounted for in budget transfers. It should be noted that the current payroll cleaning exercise piloted in two states is expected to reduce the wage bill by an estimated 10 per cent.

69. No capital funds were budgeted in FY 2014/2015.

Expenditure on wages and salaries accounts for the largest share of total allocations, amounting to between 75% and 86% over the period – levels commonly recorded in many African countries. The peak observed in 2012/2013 highlighted the need to secure salaries under austerity measures. This was done to the detriment of operating costs, which are easier to cut than salaries, and in 2012/2013 absorbed 11% of the budget against an average of 20% for other years. It should be noted that operating expenditures (i.e. the amounts allocated to school/universities/institutions for their functioning) is critical to ensuring a minimum quality of schooling. In addition, more than half of these operating expenses are allocated to non-school administrative management at central, state, and county levels, rather than to schools/universities where teaching and learning take place (see *Section 3.2.4* for further details). However, the introduction of school capitation grants in 2014 and their subsequent roll-out will lead to a more balanced allocation of funds.

Management of education spending is highly de-concentrated (see *Table 3.2*). The proportion of recurrent expenditure managed through transfers to states and universities reached as high as 81.3% in the case of wages and salaries in 2012/2013, and even 84.4% for general education (see *Tables A11a and A11b*). The proportion has been much lower in the case of operating expenses, but is growing and is expected to increase further with the roll-out of the school capitation grant introduced in FY 2013/2014. It should be noted that, as far as capital expenditure is concerned, the level of transfers to states is nil.

Much of de-concentrated expenditure on education is organized through ‘conditional transfers’ from the central government to state governments, and from state governments to counties. Conditional transfers are earmarked for specific categories of spending (e.g. wages and salaries, operating expenses). However, the corresponding accountability and reporting systems that should accompany de-concentration on the part of states/universities is neither regular nor harmonized. This also holds true for the reporting of other financial allocations to education including from internally generated taxes and state block grants from the central government, which are not reported in a systematic or regular basis by states. Block grants are transferred from the central government to states as discretionary funds. It is understood that a part of these grants is allotted to education, but systematic reporting on this matter is lacking. Only estimates for 2013/2014 are available.⁷⁰

3.2.2 Distribution of recurrent public spending across sub-sectors

The South-Sudanese education sector is divided into seven sub-sectors of very unequal sizes. These are:

- Pre-primary education
- Primary education
- Secondary education
- Alternative education system
- Technical and vocational education and training
- Teacher training institutes
- Higher education.

The share of higher education has exploded to the detriment of primary and secondary education

The shares of expenditure allocated to each sub-sector, while depending on the number of students and the level of quality inputs, are also an indication of the priority invested in them at the political level. *Table 3.3* presents the division of recurrent education expenditure among sub-sectors in 2009 and 2013/2014. 2013/2014 data include estimated education expenditures from states.

The explosion of higher education as a spending sub-sector is immediately apparent, rising from almost zero to 26.3% of total recurrent expenditure. In 2009, higher education fell under the remit of the Government of Sudan, in accordance with the Comprehensive Peace Agreement. However, after independence in 2011, the South Sudanese government became responsible for this sub-sector, hence the large increase in its share of education expenditure.

Such a surge in higher education could only be attained at the expense of other sub-levels. Thus, the share of primary education, while still the biggest, lost nine percentage points decreasing from 67.6% to 58.7% between 2009 and 2013/2014, and that of secondary lost 12 percentage points, declining from 21.7% to 9.7%. The share of AES also declined from 8.4% to 3.7% over the same period. Throughout the period, the share of other sub-levels (TTIs, pre-primary, and TVET) remained rather marginal, with each receiving 1% or less of total expenditure.

70. No capital funds were budgeted in FY 2014/2015.

Table 3.3. Estimated breakdown of public recurrent education expenditure, by level of education (government funds), 2009 and 2013/2014 (SSP million and %)

	2009 (2013/2014 prices)		2013/2014	
	SDG million	As a % of total	SSP million	As a % of total
Pre-primary	3.7	0.8%	1.2	0.3%
Primary	316.7	67.6%	250.2	58.7%
AES	39.4	8.4%	15.8	3.7%
Secondary	101.9	21.7%	41.5	9.7%
TTIs	6.4	1.4%	4.5	1.1%
TVET	–	0.0%	1.0	0.2%
Higher education*	0.6	0.1%	112.0	26.3%
Total	468.6	100.0%	426.2	100%

Sources: MoFEP, 2011–2015; MoLPS (2013–2014) and state grant estimates; World Bank, 2012 for 2009 data. Authors' computations.

Note: *In 2009, Khartoum accounted for the majority of spending on higher education.

3.2.3. Analysis of 2013/2014 public recurrent expenditure: Staff costs

As shown above, expenditure on education staff accounts for the largest share of the total allocation. It is, therefore, important to analyse this cost in detail so as to highlight any areas for improvement. To obtain an overview of staff numbers, data were gathered from the Ministry of Labour and Public Service (MoLPS), which has introduced a new payroll recording system entitled SSEPS (South Sudan Electronic-Payroll System). SSEPS allows state administrative officials to enter data monthly on each person on the payroll. These data are then sent to the central MoLPS and form a good basis for staff analysis, although the data are not consolidated⁷¹ and are not without their problems.⁷²

Four-fifths of education staff are located in schools

Overall, 34,049 staff of all kinds were employed in the education sector in 2014/2015 of whom around 28,000 were located in schools (82%). Of those, 21,539 staff were directly involved in teaching as teachers or instructors, representing 63% of all staff. School-based support staff amounted to 6,404 persons or 19%.

There are two types of school-based non-teaching staff: administrative staff who hold positions such as secondary school principals, accountants, and secretaries, and people employed in a diversity of manual positions such as cleaners, security guards, and cooks (also referred to as unclassified staff). The *Structure, Duties and Function Book* issued by MoEST (MoEST, 2015e) in July 2015 provides no specific norms as to how many unclassified/support staff should be employed by schools and in what capacity. This may be one area where formal guidance could be instituted.

Non-school based staff numbered 6,106 employees or 18% of the total. These include staff of *payam* education offices, county education departments, state ministries of education, and the national Ministry of Education. This means that there is one non-school based staff member for every 3.5 teaching staff.

The central office of the Ministry of Education, in addition to its role as policy-maker for the whole of the country, is an organizing entity of so-called secondary national schools. These schools, located in various states across the country, are exclusively managed by the central office and do not report to state authorities. Thus, staff working in those schools – teachers and non-teaching staff – are found on the books of the central ministry rather than the state ministries.⁷³ The purpose of national secondary schools was to ensure greater integration of young people by promoting equal representation of youth from different states. This raised, however, the question of whether this arrangement has potentially created detrimental double standards in terms of access to and operation of secondary education.

71. The analysis was based on state-level payroll records from various months over 2013/2014 and 2014/2015, as it was not possible to obtain payroll records for the same month/year for all states. Nevertheless, classified staff numbers on SSEPS did not alter significantly between 2013/2014 and 2014/2015, according to the 2014/2015 Budget Book (p. 158).

72. For example, the main job categories, workstations, job titles, and so on have not been incorporated into the payroll software as lists to select from, leaving states a free hand to devise their own entries. Thus, for a primary teacher, there may be a multiplicity of entries such as: 'Primary teacher', 'Prim. Teacher', 'P. teacher', 'Teacher', and 'School t.' Non-classified staff (non-teaching staff) are also sometimes recorded as teachers, while some retiree staff have not been removed from the payroll, further complicating the classifications for staff and their related numbers. No information was available on some personnel regarding their position, and existing information had to be used to classify them under a specific position/level. See also *Annex 1* for data limitations.

73. The number of these staff working in schools was estimated and included in the school-level category.

Table 3.4. Number of staff, by workplace, staff category, and education level, 2013–2015

Workplace	School-based		Non-school-based	Total	Distribution (%)
	Teachers/instructors in class	Other staff			
School-level					
Pre-primary	94	36		130	0.4%
Primary	17 014	2 640		19 654	57.7%
AES	1 122	13		1 135	3.3%
Secondary	1 801	840		2 641	7.8%
TTIs	101	151		252	0.7%
TVET	53	49		102	0.3%
HE*	1 354	2 675		4 029	11.8%
Total	21 539	6 404		27 943	82.1%
Central and decentralized levels					
Central MoEST			307	307	0.9%
State MoEST			1 930	1 930	5.7%
County			2 933	2 933	8.6%
<i>Payam</i>			848	848	2.5%
Central MoHEST			88	88	0.3%
Total			6 106	6 106	17.9%
Grand total	21 539	6 404	6 106	34 049	100%
Distribution (%)	63.3%	18.8%	17.9%	100%	–

Sources: MoLPS, 2013–2014. For higher education: MoFEP, 2011–2015 (2014/2015 staffing summary); HE payroll analysis; Wage Indicator, 2015. Authors' computations.

Note: *Estimates of higher education staff are much more fragmentary as no payroll sheets were available for universities.

The largest workplaces are by far primary education comprising 57.5% of staff, followed by higher education with 11.8% of education staff (Table 3.4). The low share of AES (3.3%) may be attributed to the fact that many AES teachers (estimated at 1,000) are also primary teachers and fall under the latter category. Conversely, the relatively high number of teaching staff recorded in TTIs (only three government TTIs were operational at the time) is due to the fact that many are no longer working following the closure of TTIs, but remain on the payroll. County and state offices are the next largest workplaces with 8.6% and 5.7%, respectively, while *payams* are left with only 2.5%. Indeed, this distribution departs slightly from that stipulated in the *Structure, Duties and Function Book* (MoEST, 2015e). Compared with this norm,⁷⁴ it is noticeable that: (i) the number of staff at state and country levels are over-represented, while those at *payam* level are under-represented; and (ii) the number of staff at *payam* level, while being lower than at county level, should be higher than the number at state level. There is clearly a management issue here, whereby *payam* offices, which are the closest supervisory entities vis-à-vis schools, are weakened in favour of counties and states.

Wage analysis

From the payroll, it is possible to compute the average wage received by each category of staff at the various education levels, and weigh them against GDP to establish a relative cost that is comparable across countries (Table 3.5). Salaries range from 1.4 units of GDP per capita at the AES level to 6.3 units for teachers at TTIs. The primary school teacher salary is about 2.1 times the value of GDP per capita, while secondary teachers make up about 3.9 units of GDP per capita. The most common observations concern the clear differential between primary and secondary teachers. Yet, the cost of salaries for primary school teachers is low relative to comparable countries.

Differentials in salary between school and non-school-based staff can also be observed, with a central office employee paid on average 6 units of GDP per capita, as much as three times a primary school teacher, compared with 1.8 times for a state official and 1.3 times for county/*payam* officer (Table 3.5).

74. According to the *Structure, Duties and Function Book*, the estimated number of staff (based on the 10 states) amounts to 1,100 staff at state level, 1,892 at county level, and 1,542 at *payam* level.

Table 3.5. General education annual average salary, by staff category and level, 2013/2014 (SSP and as a multiple of GDP per capita)

	Average annual salary by category (SSP)		Average annual salary as a multiple of GDP pc	
	Teaching	Non-teaching	Teaching	Non-teaching
School level				
Pre-primary	6 100	4 420	1.6	1.2
Primary	7 622	4 600	2.1	1.2
AES – full time	5 079	4 600	1.4	1.2
AES – part time*	3 216	–	0.9	–
Secondary	14 461	6 711	3.9	1.8
TTI	23 432	11 055	6.3	3.0
TVET	9 609	6 666	2.6	1.8
Central and decentralized level				
Central		22 722		6.1
State		13 576		3.7
County		9 910		2.7
<i>Payam</i>		10 049		2.7

Source: MoLPS, 2013–2014. Author's computations.

Note: *AES part-time consists of primary teachers employed as AES teachers. Their earnings amount to half a Grade 12 teacher.

The related wage bill can be broken down by staff category and level (*Table 3.6*). This amount surpasses by SSP45.6 million the amount observed in the general education budget (see *Table A11a*). This situation is due to the fact that unclassified/support staff and certain staff, while they should not appear on the payroll, nevertheless appear, and as such are not accounted for in MoEST salary transfers. The assumption is that these wages are covered by states through state block grants or from their own resources.

Table 3.6. General education annual wage bill, by staff category and level, 2013/2014 (SSP thousand)

	School-based staff		Non-school-based staff	Total
	Teachers/instructors in class	Non-teaching staff		
School level				
Pre-primary	573	159		733
Primary	129 688	12 143		141 831
AES	5 699	175		5 874
AES part-time	3 242			3 242
Secondary	26 044	5 637		31 681
TTIs	2 367	1 669		4 036
TVET	509	327		836
Sub-total	168 122	20 110		188 233
Cross cutting				
Central MoEST			6 976	6 976
State MoEST			26 203	26 203
County			29 065	29 065
<i>Payam</i>			8 521	8 521
Sub-total			70 765	70 765
Total	168 122	20 111	70 765	258 998

Source: MoLPS, 2013–2014. Authors' computations. See *Table A13* for related distribution details.

3.2.4 Analysis of 2013/2014 public recurrent expenditure by function

Education costs also need to be analysed in terms of the functions they serve. There are typically three broad functions within the education service: the teaching function, the school operation function, and the sector management function. While each is important and plays its own role, the core function is necessarily the teaching function, whereby the process of teaching and learning between students and teachers takes place, typically in a classroom. The school operation function relates to the running of the school institution including making learning and teaching materials available to teachers and students, administrative activities, keeping the school safe and clean, and maintaining relations with the community. Finally the sector management function relates to activities taking place outside of the school to support, supervise, and orient education activities. The distribution of costs according to these three main functions and specific sub-levels is presented in *Table 3.7*.

Table 3.7. Distribution of public recurrent education expenditure, by function, 2013/2014

	Pre-primary	Primary	AES	Secondary	TTI	TVET	HE	Total
School level	63.2	61.5	57.9	76.4	89.4	81.3	85.5	69.5
Teacher salary	49.5	51.8	56.7	62.8	52.4	49.5	37.0	49.2
Non-teaching staff salary	13.7	4.9	1.1	13.6	37.0	31.8	41.6	15.7
School operational costs	–	4.8	–	–	–	–	6.9	4.6
Sector administration salary	23.2	24.3	26.6	12.5	2.2	9.9	1.7	17.0
MoEST	2.1	2.2	2.4	2.6	2.2	2.1	12.8	2.1
SMoEST	7.8	8.2	9.0	9.9	–	7.8	–	6.1
County/ <i>payam</i>	13.4	14.0	15.3	–	–	–	–	8.8
Sector administration operational costs	13.5	14.2	15.5	11.1	8.4	8.8	12.8	13.5
MoEST	7.9	8.3	9.1	10.1	8.4	7.9	12.8	9.7
SMoEST	0.8	0.9	0.9	1.0	–	0.8	–	0.6
County/ <i>payam</i>	4.8	5.0	5.5	–	–	–	–	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Amount in SSP million	1.2	250.2	15.8	41.5	4.5	1.0	112.0	426.2

Sources: MoFEP, 2011–2015; MoLPS, 2013–2014. Authors' computations. See *Table A14* for the related amounts.

In 2013/2014, the functional distribution of SSP426 million spent on education in recurrent expenditure was as follows:

- On average, 69.5% went to schools with 49% allocated for teacher salaries and 5% to school operation, while 16 percent was allotted to non-teaching staff salaries;
- 30.5% went to sector management with 17% for salaries.

However, this structure varies significantly from one sector to another. With regard to school spending, the level varies from 58% in AES to 89% in TTIs, with an emphasis on salaries, especially teacher salaries in basic and secondary education. At the same time, a very high proportion of the recurrent expenditure in basic education goes to sector management (37–38%). These allocations occurred to the detriment of school operation expenditures, which received almost no funding, as these costs were mainly borne by parents. Such spending is what makes schools function and as such is fundamental to delivering quality education. Accordingly, the quasi-absence of school operating costs is a major source of concern. It is important to note, however, that in 2014 MoEST introduced school capitation grants, which are meant to cover school operational costs with the underlying objective of improving the school environment and decreasing the cost of education for parents (*Box 3.1*).

Box 3.1. School cash transfers

In 2014, MoEST introduced school capitation grants to help cover running costs and improve learning environments. The underlying idea was that by providing reliable funding to schools, registration fees for students and parents could be removed, reducing the cost of education and encouraging families to send their children to school.

Overall, capitation grants aim to deliver better quality education and improve school facilities. MoEST stipulates that between 50% and 75% of funds must be invested in improving the quality of education in schools (e.g. by purchasing teachers' guides or reference books). Between 25% and 50% of funds can be used on physical improvements to schools and school facilities (e.g. repairs and extra classrooms). Up to 20% of grant funds can be spent on general school support (e.g. school meals or incentives for volunteer teachers).

Not-for-profit schools such as government schools, faith-based schools, and community schools are eligible for the grant. Schools must comply with the following requirements to receive the grant:

- Submit a Pupil Admission Register (PAR) to the South Sudan Schools' Attendance and Monitoring System (SSSAMS)/'Ana Fii Inni' ('I am here').
- Provide a daily update on pupil attendance using SSSAMS/'Ana Fii Inni'. This system is a countrywide SMS-based daily attendance reporting programme for students and teachers. It helps MoEST to confirm the actual number of pupils present in a school on which the amount of the capitation grant is based.
- Establish a school governing body if none exists. This usually takes the form of a parent-teacher association for primary schools, ideally with a school management committee drawn from its members, or a board of governors for secondary schools.
- Develop and submit a simple school development plan to describe how funds will be spent (schools have been provided with a template).
- Lay out a simple school budget (schools have been provided with a template).
- Open a school bank account.

In the event that schools are affected by conflict, some of these hurdles may be temporarily waived.

The amount of the grant received by each school is based on student enrolment. Each school is given a base amount, plus a per-pupil amount that varies depending on school type. The amounts indicated for 2015 (*Table 3.8*) are to be doubled in FY 2016/2017 to increase the purchasing power of schools, following the significant depreciation and inflation that occurred in FY 2015/2016.

The grant initiative started with primary and secondary schools (the secondary portion was funded by DFID's GESS programme), and has since been extended to include pre-primary schools and TTIs, as well AES centres (through the government budget). As of late 2015, 234 ECD schools, 2,437 primary schools, and 193 secondary schools were benefiting from school cash transfers.

Source: Adapted from the GESS website: <http://girlseducationsouthsudan.org/capitation-grants/>.

Table 3.8. School grant amount, by school level, 2015 (SSP)

	Flat rate per school	Per pupil/student
ECDE	5 000	39
Primary	5 000	39
Secondary	10 000	78
ALP	5 000	39
National TTI – in service	20 000	130
National TTI – pre service	20 000	520
Non-national TTI – in-service	20 000	50
Non-national TTI – pre-service	20 000	200

Source: MoEST, pers. comm.

3.3 Public education recurrent unit costs in 2013/2014⁷⁵

This portion of the analysis of public education expenditure focuses on unit costs. Estimating the average cost for each individual student at various sub-levels of education has two purposes. The first is to allow for a comparison of costs between different sub-levels on a meaningful basis – a single individual, and then to verify that the differences in costs correspond to the priority differentials intended by the authorities. The second purpose is to shed light on the components of unit costs and their contributory values, so as to clarify the most effective ways for authorities to manage them.

3.3.1 Public recurrent expenditure per pupil

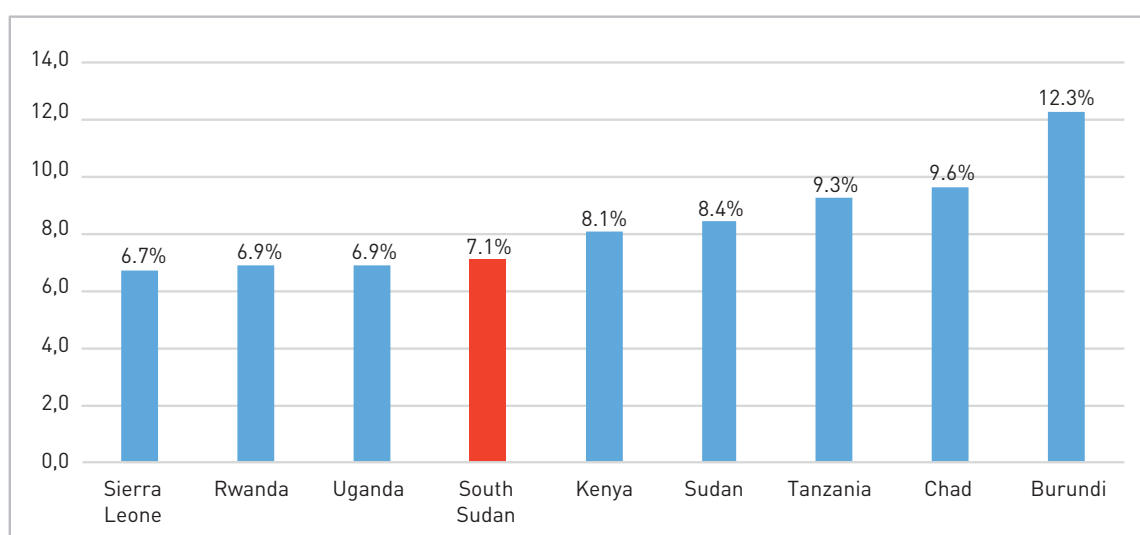
Unit costs by level of education for the year 2013/2014 are shown in *Table 3.9*. Unit costs tends to increase with the level of schooling: from SSP42 in pre-primary to SSP7,003 in tertiary. The cost per TTI student is quite high at SSP27,693, as many non-active teachers are accounted for in the computations and the number of students enrolled is very small. As such, it does not reflect the true unit cost per student, which could be estimated at approximately SSP7,200 in a normal functional setting, a level that is nevertheless still high.

Table 3.9. Public unit costs by level of education, 2013/2014 (SSP and as % of GDP)

	Recurrent expenditure 2013/14 (SSP thousands)	Enrolment 2013	Cost per student in SSP	Unit cost	
				As a proportion of GDP pc (%)	Multiple of primary UC
Pre-primary	1 158	27 775	42	1%	0.2
Primary	250 243	957 301	261	7%	1.0
AES	15 757	130 192	121	3%	0.5
Secondary	41 488	28 849	1 438	39%	5.5
TTIs	4 514	163	27 693	746%	105.9
TVET	1 028	3 050	337	9%	1.3
Tertiary	112 041	16 000*	7 003	189%	26.8

Source: MoFEP, 2011–2015; MoLPS, 2013–2014; MoEST, 2008–2015. *Estimates based on 2012 and 2015 enrolment data. Authors' computations.

Figure 3.5. Recurrent expenditure per primary pupil in selected countries, 2014 or most recent year (as a % of GDP per capita)



Source: IIEP Pôle de Dakar, 2015.

75. It is important to note here that school and fiscal calendars are dissimilar in South Sudan: the fiscal year goes from the 1 July to 30 June of the following year, while the school year goes from January to December of the civil year. Therefore, recent estimates analysed here that relate to fiscal years 2013/2014 overlap the two school years for 2013 and 2014.

A pupil in public primary school costs SSP261, or 7% of GDP per capita, in 2013/2014. A quick comparison of the South Sudanese situation with a set of comparable countries shows that the unit cost for primary pupils in South Sudan is below the observed average of 8.5%. This low level of spending underlines the key lesson that quality education costs and requires adequate funding. Below a certain level it will not be possible for the system to supply the kind of quality education necessary for good learning standards, and this will threaten the entire education system.

Compared with primary education, the unit cost for secondary education is relatively higher in South Sudan than in other countries at a ratio of 1.5, while remaining on par for tertiary education. The relatively high level of secondary unit costs in South Sudan could be related to the low level of education spending per pupil in primary.

Table 3.10. Public unit costs, by level of education, comparable countries, 2014 or most recent year (as a multiple of the primary unit cost)

Countries	Unit cost	
	Secondary	Tertiary
Sierra Leone	2.3	22.3
Uganda	6.7	10.2
Rwanda	4.1	11.9
Kenya	–	31.0
Sudan	2.9	6.6
Tanzania	2.2	45.2
Chad	1.7	61.5
Burundi	5.2	25.8
Average	3.6	26.8
South Sudan	5.5	26.8
Ratio SS/average	1.5	1.0

Source: IIEP Pôle de Dakar, 2015.

It is important to ascertain whether the costs of education have increased in recent years, which can be done by comparing unit costs for 2009 and 2013/2014 in constant prices for 2013/2014 (*Table 3.11*). The use of constant prices eliminates cost changes due to inflation. This shows that, relatively speaking, education costs have decreased slightly for primary, halved at secondary, and increased by 56% in tertiary. As a proportion of GDP per capita, the situation is different: while unit costs have remained stable at secondary level, they have witnessed major increases at the level of primary (doubling) and higher education (tripling).

Table 3.11. Public unit costs changes, 2009 and 2013/2014

	2009			2013/2014		
	SDG in constant prices 2013/2014	As a proportion of GDP pc (%)	As a multiple of primary unit cost	SSP	As a proportion of GDP pc (%)	As a multiple of primary unit cost
Primary	264	3.5%	1.0	261	7.0%	1.0
Secondary	3 010	39.5%	11.4	1,438	38.7%	5.5
Tertiary	4 483*	58.8%	17.0	7 003	188.6%	26.8

Source: Re-estimated figures for 2009 are taken from World Bank (2012), based on updated figures for GDP pc for 2009. Authors' computations.

Note: *Includes spending by Khartoum.

3.3.2 Breakdown of public recurrent unit costs

To fulfil the second purpose of the unit cost analysis, it is necessary to break down unit costs by their main components at school level and at sector-management level, presented here with a number of explanatory cost details (*Table 3.12*). This breakdown shows that the SSP261 unit cost per pupil at primary level comprises SSP136 for teacher salaries, SSP13 for non-teaching staff salaries, SSP13 for operational costs at school level, SSP64 for salaries for sector management staff, and SSP37 for administrative costs in the form of goods and services for administration offices.

Teaching staff costs account for half the primary unit cost and explain much of the low level of primary unit cost. Indeed, low salary ranges are observable for teachers as well as a relatively high pupil-to-teacher (on payroll) ratio. In real terms, the average primary teacher's salary has decreased by 25% since 2009. According to HEART (2015), 'teachers earn less than one-third of the amount earned by soldiers or security guards'. Moreover, it is not uncommon to find security guards in some places in Juba who appear to be trained teachers. This situation has resulted in a serious decline in the status of teachers, contributing to high turnover (see *Section 5.1.5* in *Chapter 5* for further details). Another major concern is the very low operational costs at school level, equivalent to SSP13 per child. School operational costs relate to the running of the school institution and include making learning and teaching materials available to teachers and students. Such low operational costs might lead to insufficient investment in quality inputs, jeopardizing the overall quality of education. However, as noted earlier, school capitation grants were introduced by MoEST in early 2014 to address this situation.

Table 3.12. Breakdown of public unit costs in government schools, 2013/2014 (SSP)

		Pre-primary	Primary	AES	Secondary	Higher education
School level	School level (unit cost, SSP)	26	161	70	1 098	5 990
	Teaching staff (unit cost per pupil)	21	135	69	903	2 592
	Average annual salary (SSP)	6 100	7 622	4 197	14 461	30 626
	Pupil-teacher ratio*	295	56	61	16	12
	Non-teaching staff (unit cost per pupil)	6	13	1	195	2 915
	Average annual salary (SSP)	4 420	4 600	4 600	6 711	17 436
	Pupil-non-teaching staff ratio*	772	363	–	34	6
	Operational costs (unit cost)	0	13	0	0	483
Sector-wide management	Sector-wide (unit cost, SSP)	15	101	51	340	1 013
	Salary unit cost per student	10	64	32	180	119
	Administrative unit cost	6	37	19	160	894
Total unit cost		42	261	121	1 438	7 003

Source: From *Table A13*. Authors' computations.

Note: *Based on staff payroll.

The very high secondary school unit cost of SSP1,438 can be explained by a combination of higher teachers' salaries (SSP14,461 per annum compared with 7,622 for primary teachers) and a low pupil-teacher (on payroll) ratio (16 pupils compared with 56 in primary). This points to a need for policies to increase pupil-teacher ratios in secondary schools. Another factor contributing to the relatively high unit cost in secondary education is the large number of non-teaching staff. Secondary schools have one non-teaching staff member for every 34 students compared with 363 pupils in primary schools.

The area where efficiency improvement can be achieved most is cost reduction in sector management. Sector management is excessively costly: annual non-school administrative costs amount to SSP101 for every primary pupil, SSP340 for every secondary student, and SSP901 for every tertiary student.

3.4 Key results

Education is not a priority in terms of government spending, despite a good level of domestic resource mobilization.

Since independence, the share of education spending has remained stable at around 5% of recurrent expenditures, far from the national benchmark of 15% (and 10% for general education) and the international benchmark of 20% (related to recurrent expenditures only). Such low levels are a consequence of the difficult conditions characterizing the birth of South Sudan – following decades of war with neighbouring and former parent country Sudan – which made high spending on security an imperative, a trend that has continued to this day.

Capital spending is very low at less than 4% of total education expenditure, resulting in inadequate resources to make badly needed improvements to school infrastructure.

Development aid plays an important role in supporting education efforts, providing one-third of total education expenditures in 2014/2015. However, education has not received significant attention from donors, accounting for only 12% of development aid.

Education is not a priority for humanitarian funding either. Indeed, education receives only 3% of all humanitarian funding, below the 4% international benchmark.

This low level of education resources and the recent and rapid deterioration in the macroeconomic and social situation jeopardizes past investments in the education sector and represents a major threat to its future development, not to mention the future development of the country. This situation calls for the urgent mobilization of additional resources from both domestic and international sources.

The primary sector receives more attention absorbing 59% of recurrent expenditures in 2013/2014. However, there is a need for a better balance between higher education (which absorbed 26% of resources in 2013/2014) and other levels of education. The pre-primary, AES, and TVET sub-sectors are suffering from neglect despite their demonstrated contribution to readiness to study (pre-primary) and learning to work among children and youth (TVET and AES).

There is a need to redeploy staff from state and county offices to payams in order to improve management efficiency by increasing the proportion of staff employed in close supervision.

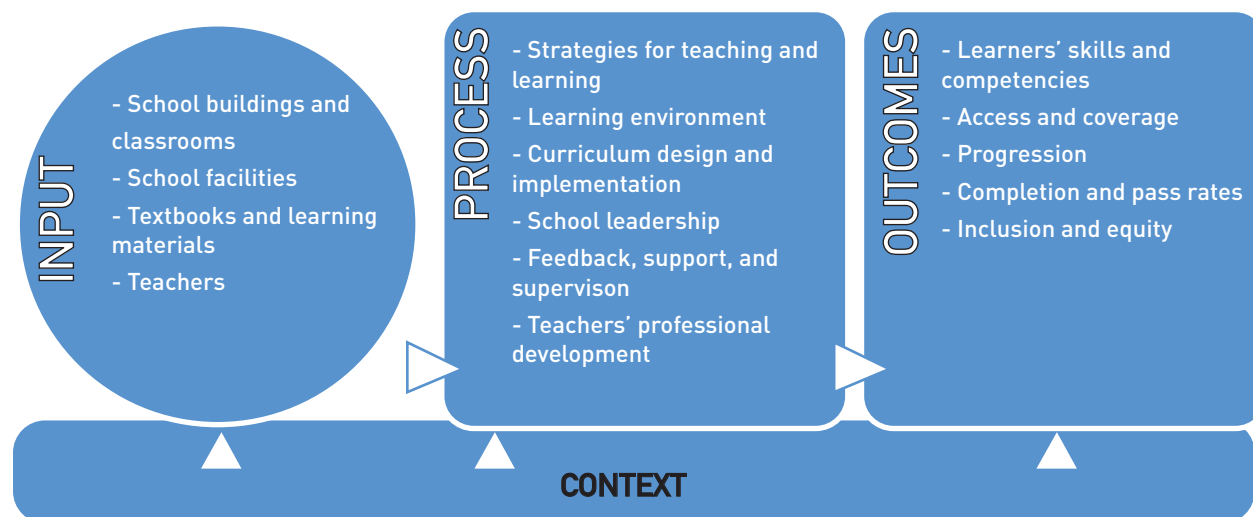
Unit costs at primary level are low at SSP261, representing 7% of GDP per capita, much below comparable countries. This is mainly due to low primary teacher salaries at 2.1 times the value of GDP per capita in 2013/2014. There is an urgent need to increase the salary of primary school teachers in view of rapidly deteriorating standards of living among teachers and consequently high turnover. The low unit cost for school operation is also worrisome, as this could further harm the quality of teaching and learning. However, the introduction of the school capitation grant in 2014 could remedy this issue.

Unit costs are much higher at secondary level at SSP1,438 or 5.5 times the unit cost for primary. This can be explained by a combination of higher teachers' salaries (SSP14,461 per annum compared with SSP7,622 for primary teachers), a low pupil-teacher (on payroll) ratio (16 compared with 56 in primary), and a large number of non-teaching staff (one non-teaching staff member for every 34 students compared with 363 pupils in primary schools). This points to a need for policies to increase pupil-teacher ratios in secondary schools and rationalize non-teaching staff at school level.

4. Quality

The General Education Act of 2012 and the General Education Strategic Plan (GESP) for 2012–2017 focus on enhancing education access and quality in line with the new Sustainable Development Goal for learning. This goal underlines every child's right to inclusive, equitable, and high-quality learning leading to relevant learning outcomes. Achieving this goal means paying attention to the range of factors necessary for quality learning. These factors can be divided into input factors, processes, and outcomes (Figure 4.1).

Figure 4.1. Quality in education



Source: IIEP-UNESCO, 2016.

High-quality learning outcomes require adequate input resources such as classrooms and facilities, learning materials, and competent teachers. These elements are essential to create good learning conditions. Moreover, studies show that in low-income countries there is a clear correlation between resources and learning outcomes (Bloem, 2013). A number of process-related factors are also critical for improved learning, including: pedagogy and strategies for teaching and learning, curriculum implementation, structures for feedback, support and supervision for pupils and teachers, school leadership, and professional development for teachers. An effective process is one that enables resources allocated to schools to be translated into pupil learning outcomes. However, contextual factors also play an important role in defining quality of education (see Figure 4.1). In South Sudan, the education context is largely informed by the ongoing conflict, poor health outcomes including high levels of malnutrition, and inadequate funding allocations (see Chapters 1 and 3).

This chapter discusses the quality of education in South Sudan based on an analysis of educational resources (*inputs*), the learning process (*process*), and learning outcomes. The latter dimension is particularly important, as pupil learning outcomes are the fundamental purpose of the educational system, against which the system is held accountable. Analyses on these inputs, processes, and learning outcomes are conducted for both primary and secondary levels.

4.1 Inputs: Educational resources

This section reviews the most common education resources, namely classroom conditions and school facilities and equipment, and briefly analyses school feeding programmes.

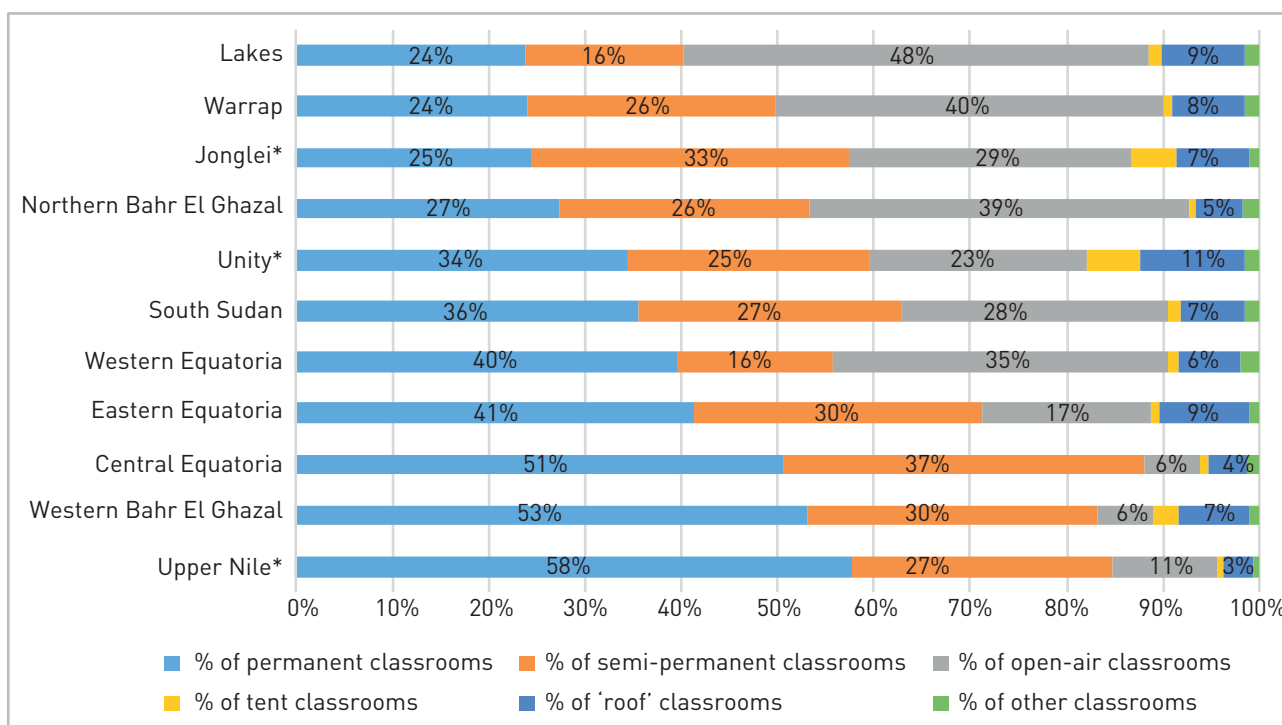
4.1.1 Classroom conditions

On average, more than one-third of primary classrooms in South Sudan take the form of tent, 'roof' (without walls) or open-air structures. This constitutes a relative improvement in classroom type since 2009, when 45% of classrooms were tent, 'roof' or open-air structures. In 2015, 36% of classrooms were reported to be permanent structures and 27% semi-permanent, compared with 25% and 29%, respectively, in 2009. Schools without buildings or located in structures that cannot withstand rain might not be conducive to proper learning, and are unlikely to function for the whole school year, potentially leading to significant loss of school instruction time, a major element in learning outcomes.

There are large variations in classroom condition type across states (see Figure 4.2). In Western Bahr el Ghazal and Central Equatoria, only 6% of primary classrooms are reported to be open air, but in Lakes and Warrap over 40% are open-air classrooms. The low presence of non-permanent structures in Upper Nile is certainly linked to the fact that

a very limited number of schools reported on the last EMIS, or are closed (see *Chapter 2, Section 2.2.1*), biasing the overall analysis. Many schools in the Greater Upper Nile (GUPN) states, and especially in Unity and Upper Nile, are believed to be damaged or destroyed.

Figure 4.2. Primary classrooms, by condition type and state, 2015 (%)

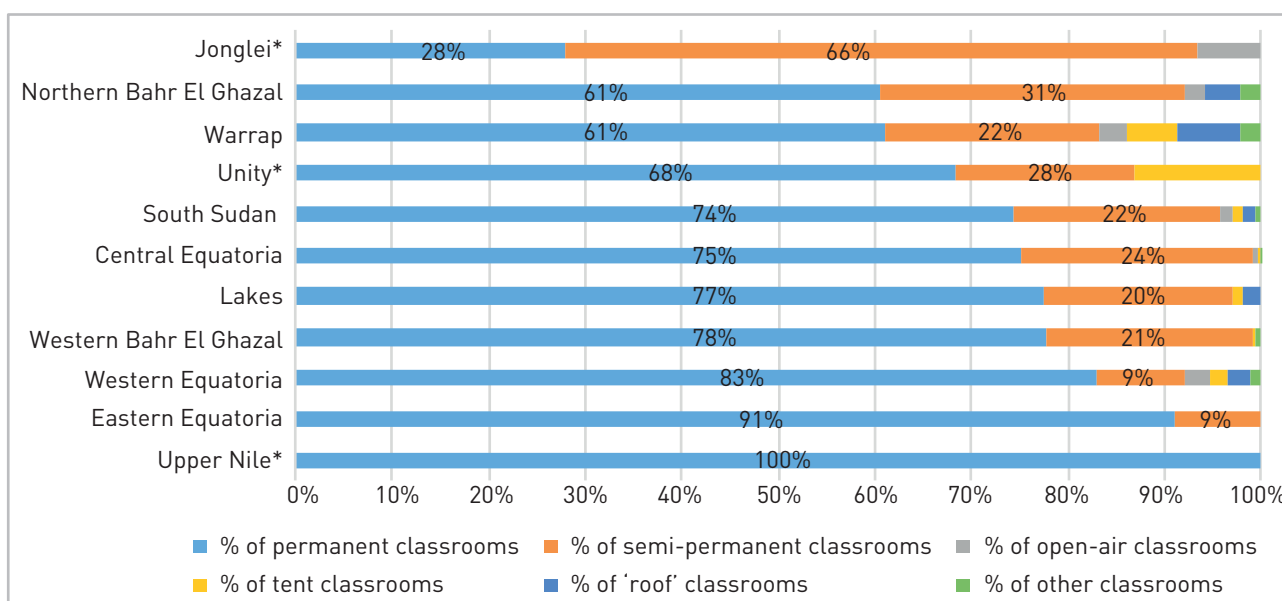


Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

Coverage of secondary schools is very low in South Sudan, but existing secondary schools have higher standards than primary schools, with 74% of classrooms reported to be permanent and 22% semi-permanent (see *Figure 4.3*). This situation is broadly similar to that of 2009 (78% and 18%, respectively), However, there are large variations between states, with the smallest reported share of permanent classrooms found in Jonglei (28%), compared with 91% in Eastern Equatoria. GUPN states report very few classrooms, while in Upper Nile all classrooms (n=8) were reported as permanent, although data are available for only two out of 12 counties.

Figure 4.3. Distribution of secondary classrooms, by type and state, 2015 (%)

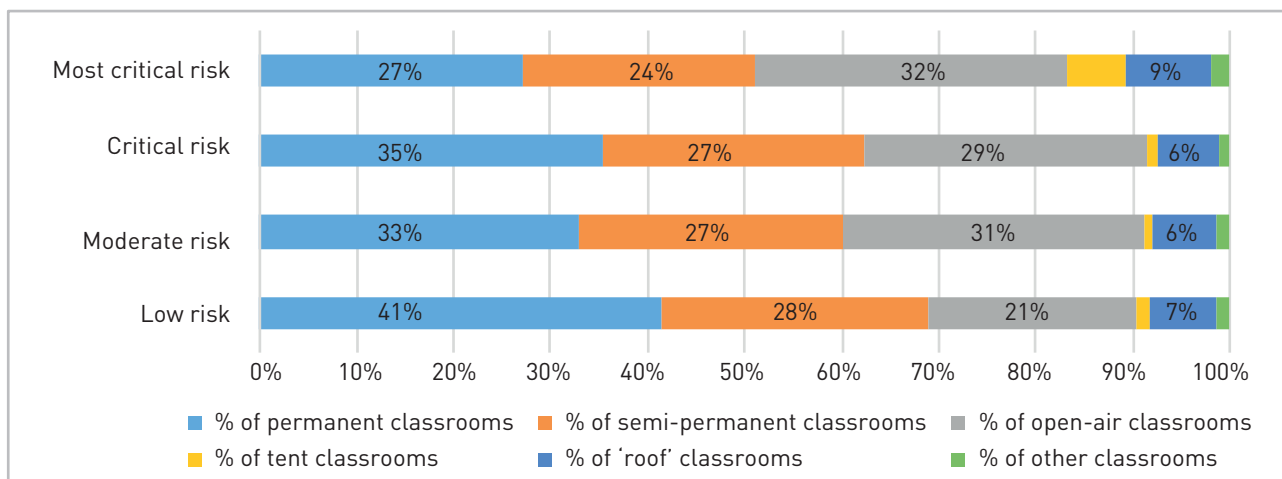


Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

A risk analysis by county shows that areas with the highest risk index have the lowest share of permanent classrooms at both primary and secondary levels. At primary level, counties with the highest risk index have the largest proportions of tent, 'roof' and open-air classrooms (49%). Only 27% of classrooms are reported to be permanent in these counties, compared with 41% in counties with the lowest risk index, which also report 31% of tent, 'roof' or open-air classrooms. At secondary level, counties with the highest risk index also have the largest share of tent, 'roof' or open-air classrooms (19%) and the lowest share of permanent classrooms (50%). Counties with the lowest risk index reported 78% of permanent classrooms and only 3% of tent, 'roof' or open-air classrooms.

Figure 4.4. Distribution of primary classrooms, by type and county risk index, 2015 (%)



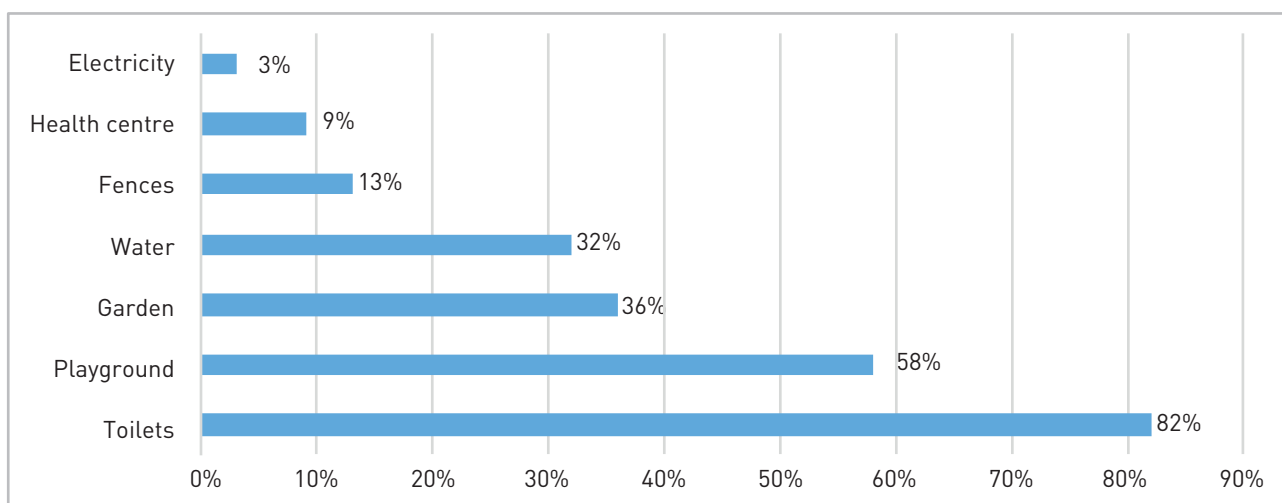
Source: MoEST, 2008–2015. Authors' computations.

4.1.2 School facilities

The majority of schools in South Sudan lack basic facilities

Health and hygiene facilities, as well as fences, function as important mitigation measures against epidemics and insecurity. While 85% of schools have toilets (and 54%, separate toilets for males and females), less than a third of primary schools have access to water (32%), fewer still have health centres (9%), and only 13% are fenced. At the secondary level, access to facilities is better: 83% of schools have access to water and 88% have toilets (84% have separated toilets), but only 36% are fenced. At primary and secondary levels, 58% of schools have playgrounds.

Figure 4.5. Share of primary schools with facilities, 2015 (%)

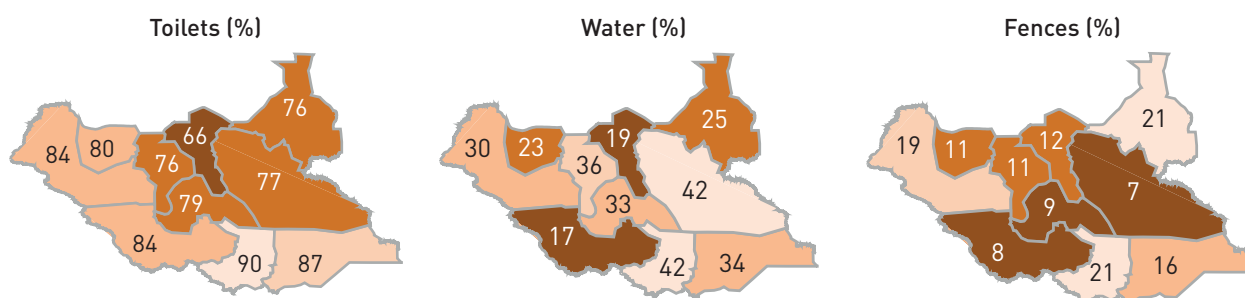


Source: MoEST, 2008–2015. Authors' computations.

Wide disparities exist across states and counties. Unity and Eastern Equatoria reported the smallest share of primary schools with access to water (19% and 17%, respectively), while Jonglei and Central Equatoria each have 42% with reported access to water. GUPN states and Lakes reportedly have the smallest share of primary schools with toilets

(between 76% and 79%), while Eastern and Central Equatoria have the highest share with 87% and 90%, respectively. The proportion of primary schools with fences varies from 7% in Jonglei, to 21% in Central Equatoria and Upper Nile. Southern counties enjoy more adequate provision of school resources, while provision is poorer in central and northern counties.

Figure 4.6. Share of primary schools with toilets, water, and fences, by state, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations.

There is no clear correlation between distribution of these basic facilities and risk levels. However, EMIS school coverage in GUPN states (Jonglei, Unity, and Upper Nile) is very limited. The situation in these states is likely much worse than the EMIS data implies, as many schools have been destroyed and others have not reported figures.

4.1.3 School equipment

A large number of schools in South Sudan lack basic learning equipment

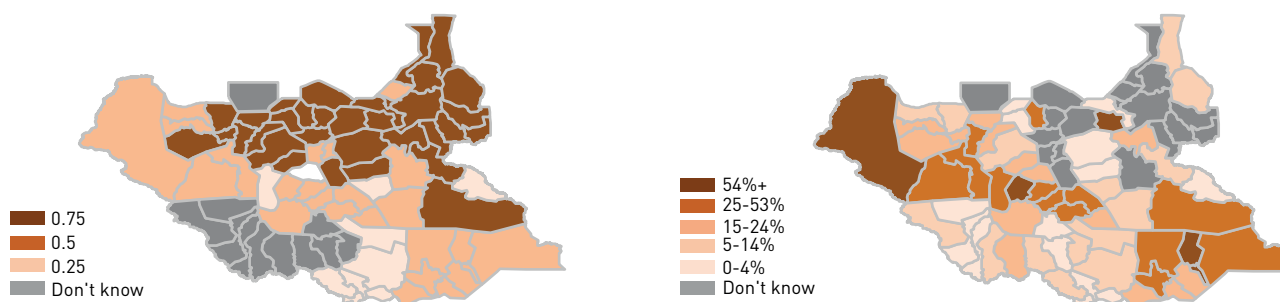
A large number of schools in South Sudan lack basic learning equipment such as desks and chairs, chalk, and blackboards. A GESS school report (GESS, 2014b) found shortages in basic classroom equipment and furniture, notably chalk, desks, and chairs. When asked to identify the top three most-needed pieces of furniture in their school, students and teachers were in broad agreement that chairs and desks were required in almost equal proportions, with 78% citing chairs and desks. The shortage of desks and chairs appears to be slightly more prevalent in primary schools, but S2 responses suggest that these are also in short supply in secondary schools. There was consensus among all seven states on the most-needed items.

In addition, primary school students identified the top three most-required items of school material as chalk (59%), sports equipment (58%), and computers (51%). While chairs are not listed as being needed, there is evidence of pupils bringing their own chairs to school. Secondary school students prioritized more sophisticated needs, notably computers (72%) followed by laboratory equipment (63%), and sports equipment (46%) (GESS, 2014b). Libraries are also in dire need; only 2% of primary and 14% of secondary⁷⁶ schools are equipped with a library (calculations made using MoEST, 2008–2015).

4.1.4 Malnutrition and school meals

Malnutrition is widespread in South Sudan: nearly one-quarter of the population faces food shortages and hunger. Schools provide students with meals to ensure that pupils receive adequate food. In 2015, 18% of primary schools and 14% of secondary schools offered school meals. However, there does not seem to be any correlation between school feeding and the risk of malnutrition. Indeed, school meals do not seem to reach the areas where malnutrition is most critical (Figure 4.7).

Figure 4.7. Malnutrition severity index (left) and % of school with meals (right), 2015



Sources: OCHA 2015 risk index; MoEST, 2008–2015. Authors' computations.

76. From 8% in 2009 (World Bank, 2012).

This situation may be due to a number of reasons. Many donors have shifted from development to humanitarian programmes, which means that food programmes are targeted towards communities rather than schools. In addition, in areas experiencing conflict, such as the GUPN states, there are issues related to access, while in some cases schools do not meet the criteria for receiving meals, such as availability of kitchen facilities. This situation leads to poor targeting of school meals in zones most at risk of malnutrition.

Overall, school infrastructure and equipment are very poor in South Sudan, as a result of long-lasting crisis and conflict. Combined with the limited availability of printed materials in many areas, as well as widespread hunger and malnutrition, this situation makes for harsh learning conditions for most South Sudanese children.

4.2 Learning processes

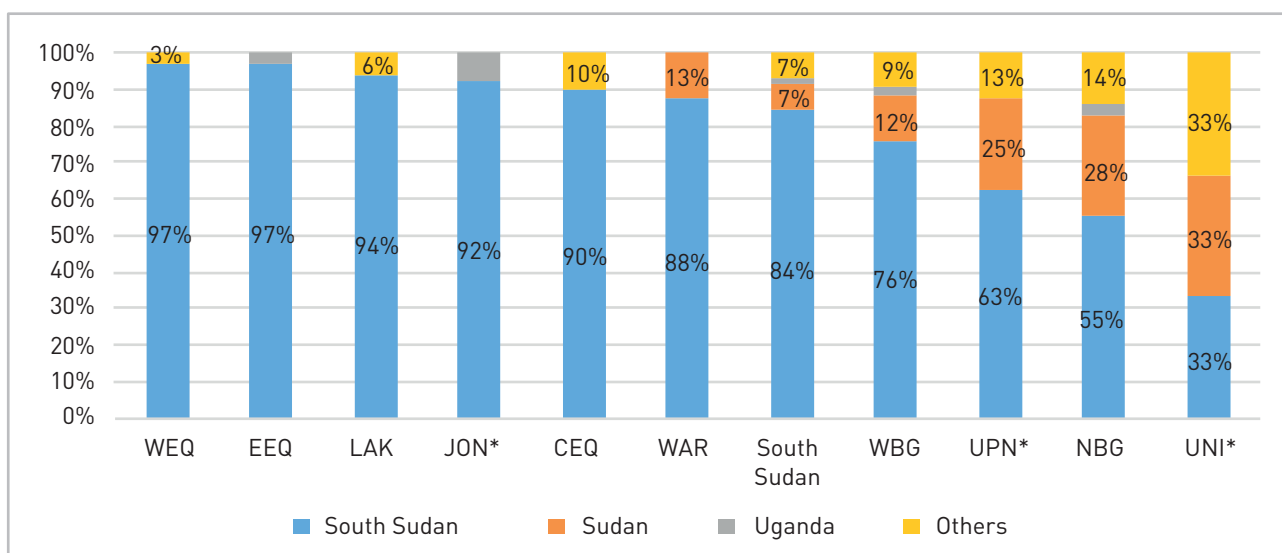
Many different attempts have been made to identify the key issues affecting learning and quality education. As noted earlier, the range of factors that affect learning can be organized into five categories: learners and support structures, teachers and pedagogy, curriculum and materials, schools and classrooms, and education system management (IIEP-UNESCO, 2016). This section discusses important issues related to curriculum and language of instruction, teaching time, absenteeism and teacher conduct, the teaching process and learning environment, and school safety. Teacher characteristics and textbooks are discussed in *Chapter 5*.

4.2.1 New curriculum being widely used

In 2015, South Sudan finalized development of its new curriculum (*Box 4.1*) and intends to achieve full implementation by 2018. Almost all primary school classes (98%) were using the new curriculum in 2015, ranging from 99% in P1 to 96% in P8. This represents an increase on 2009, when 76% of schools were using the curriculum at P4 level. However, a number of primary school teachers educated according to the former Sudanese curriculum have not yet implemented the South Sudanese curriculum. This is particularly the case in Unity, where 11% of primary schools are still using the former curriculum. The use of the new South Sudanese curriculum in upper grades is also less common in Warrap, Lakes, and Northern Bahr el Ghazal.

At secondary level, 84% of schools were using the South Sudanese curriculum in 2015, compared with 58% in 2009 (World Bank, 2012). There are significant variations by state, with the share of schools using the South Sudanese curriculum ranging from 33% in Unity to 97% in Western and Eastern Equatoria. In a number of states, including Unity, Upper Nile, Warrap, Northern and Western Bahr el Ghazal, significant shares of schools are still using the Sudanese curricula, ranging from 12% to 33% (*Figure 4.8*).

Figure 4.8. Curricula used, by state, secondary level, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations.
 Note: *Under-covered EMIS states.

Implementation of the South Sudanese curriculum has been more difficult in the northern states, which are primarily Arabic speaking. Accordingly, it has proven harder to locate qualified English-speaking teachers and teachers familiar with the South Sudan curriculum, whereas in equatorial states that border Anglophone countries it has been easier to implement. In addition, the current conflict in the GUPN region has delayed the transition to the South Sudanese curriculum (UNICEF ESARO, 2015), leading to a more gradual phase-in across those states. Furthermore, as highlighted in the UNICEF ESARO 2015 report, some schools may base their curriculum on available textbooks. This holds particular true for education in emergency (EIE) programmes.

It should be noted that the use of different curricula across schools and regions can be seen as a form of inequality, as it results in different learning outcomes for students. Lastly, decentralization of the education system has been associated with lower consistency in national curriculum implementation, an observation applicable in South Sudan.

Box 4.1. The new South Sudanese curriculum

The new curriculum framework was finalized in 2015 with full implementation planned for end 2018. All states were involved in its development to help ensure that the outcome was truly representative and relevant. The four key aims of the South Sudanese education curriculum are to:

- Create good South Sudanese citizens,
- Create successful life-long learners,
- Produce creative and productive individuals,
- Promote environmentally responsible members of society.

The new South Sudanese curriculum covers ECDE, primary, and secondary levels, and sets key goals for achieving quality education at all levels in South Sudan. The curriculum framework underlines the importance of an engaging learning environment where students are actively involved in their own learning. It also emphasizes that learning should be relevant to the lives of learners and reflect the local context and cultures. In addition, the curriculum emphasizes inclusive learning and gender equity. This requires highly competent teachers who have acquired both relevant pedagogic skills and adequate subject knowledge.

Goals related to life skills, safety, and social cohesion are highlighted in the key aims and are integrated throughout the various sections of the curriculum. The *Values and Principles Statement* states that education should be based on a shared commitment to human rights and gender equity, respect and integrity, peace and tolerance, compassion and social justice, democracy and national pride.

Curriculum development represents an opportunity to promote cohesion and plays a key role in the development of civic culture in conflict-affected contexts. It shapes understanding among future generations of what good citizenship means. In addition, the peacebuilding aspects of the curriculum address components much in demand among the public, such as life skills and peace education. A series of booklets developed for these components teach learners how to co-exist with others, address self-esteem, talk about the effects of conflict and conflict resolution, and explain how to initiate dialogue and bring about behaviour change. The booklets are being used within schools and with out-of-school youth. They have made a real contribution to changing lives and are helping to address deep-seated drivers of conflict.

Integration and cohesion are still being affected, however, by the continued use of curricula from neighbouring countries, although this issue is expected to wane as these curricula are phased out. MoEST has taken a flexible approach to the use of curricula in refugee camps, where schools decide on the curriculum to be taught. The position of UNHCR is shifting towards schools in refugee camps using the curriculum of the host country to facilitate setup and integration.

Source: UNICEF ESARO, 2015.

4.2.2 Language of instruction

The new curriculum has been accompanied by the revision of the language of instruction policy. While national languages are favoured in the first three grades of primary, English is the language of instruction from P4 onward, including in secondary (see *Box 4.2*).

Box 4.2. Language of instruction

English was designated the official language of instruction following independence as means to 'reinforce national identity and promote equitable access to economic opportunities, regional ties, and trade' (UNICEF ESARO, 2015). Today, there are 64 national languages in South Sudan, all of which are legally considered official languages. The new national curriculum framework, the South Sudan Education Act 2012, allows for the use of national languages for instruction up to P3. From P4 onwards, they will be taught as 'languages'.

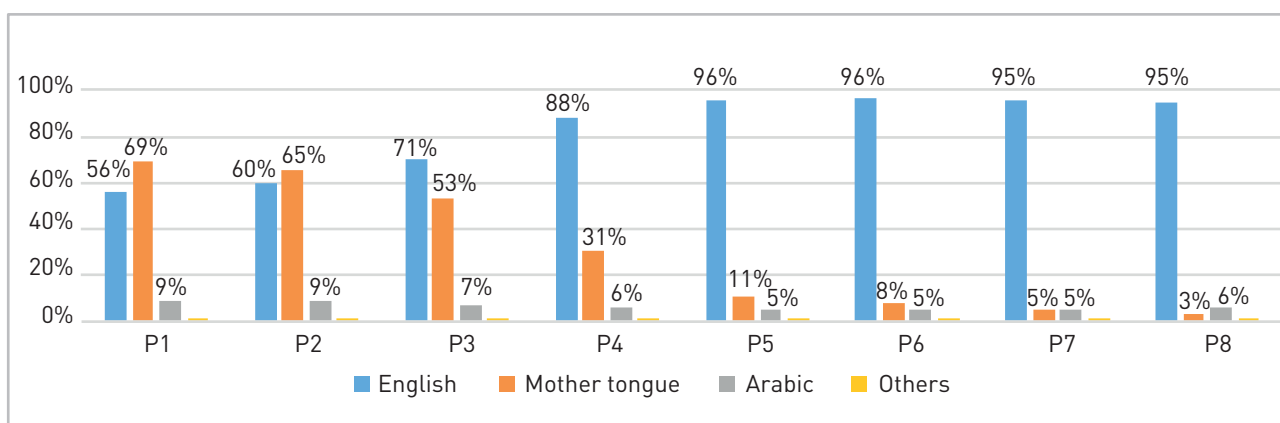
The capacity to use English is a major issue. It is widely recognized that children learn better in their mother tongue and learn a second language better if they first learn to use their mother tongue (Yai, 2012). In addition, girls and poor and vulnerable children remain in school longer when taught in their mother tongue (HDRC, 2011 in HEART, 2015). Using national languages also provides the following opportunities: '(i) the possibility of using teachers with lower English skills but good national language skills in lower primary; (ii) the opportunity for improving the quality of basic education (e.g. literacy skills, subject knowledge, child centred learning); and (iii) the opportunity to build an education system that fits the characteristics of the country and serves its needs well' (Yai, 2012).

Developing an effective and practical language policy for the selection, use, and development of local languages within the primary curriculum is becoming critical. The major challenge faced today is what mother tongue language to use. While technical dimensions prevail (e.g. the language must exist in both oral and written forms), the choice of language of instruction is highly political and contentious. At present, basic literacy materials are available in 34 languages. Some of the related writing systems may require work, and in some cases it will be necessary to obtain community agreement on the orthography to be used and update materials to match the new Southern Sudanese syllabus (Yai, 2012).

MoEST's objective is to develop at least 32 national languages over the next 10 years, with a focus on those with the most speakers and a writing system. The decision as to which languages to use will ultimately be taken by MoEST at the state level. It is estimated that the four largest linguistic groups (Dinka, Nuer, Zande, and Bari) together make up over 65% of the population of South Sudan, while the 10 largest groups account for about 80%, and the 20 largest ones represent 90%. However, many groups are bilingual or multilingual and speak neighbouring languages.

Other issues associated with teaching language include inadequate teacher training capacity in national languages, the high cost of producing multiple-language learning materials, and the lack of a budget (UNICEF ESARO, 2015). Further challenges involve mixed language areas and making South Sudanese languages an intrinsic part of the education system (e.g. teacher training and qualifications, teacher deployment, learning materials, exams) (Yai, 2012).

Figure 4.9. Type of language of instruction used by schools, by grade, primary, 2015 (%)



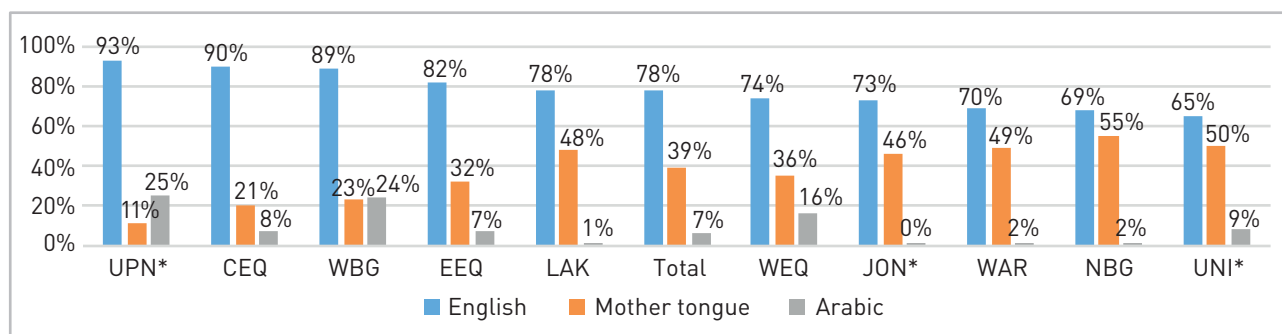
Source: MoEST, 2008–2015. Authors' computations.
 Note: Some schools use more than one language at a time.

Analysis of the distribution of language of instruction across primary school grades in 2015 shows that schools provide instruction in English and the mother tongue, as well as in Arabic, and that usage of the mother tongue is favoured in the first three grades (Figure 4.9). English is not always used, despite being the required medium of instruction from P4 onwards. The use of English in lower classes may be related to the unavailability of syllabi and/or related

teaching and learning materials in all mother tongues. In such circumstances it is permitted to resort to English until the appropriate teaching and learning materials are developed. In some later classes, mother tongue education continues because of English language competency limitations, exacerbated by the lack of exposure among teachers to spoken English (HEART, 2015). According to the Windle Trust, an NGO supporting MoEST through the Intensive English Course (IEC), the majority of teachers would be classified as 'beginner' or 'elementary' level in English, with some designated as illiterate due to their inability to form letters or write from left to right (HEART, 2015).

The reliance on other languages, whether mother tongues or Arabic, is particularly prevalent in northern states (Figure 4.10). As already noted, fewer English-speaking teachers are found in those states because the majority were trained under the Sudanese Arabic system. While some IEC programmes have been conducted, few teachers have received comprehensive language training sufficient to allow them to teach in English, presenting barriers to their adaptation to the English-language South Sudan curriculum (HEART, 2015).

Figure 4.10. Type of language of instruction used by schools, all primary grades, by state, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations. *Under-covered EMIS states.

The language/curriculum policy cannot be properly implemented in many parts of the country due to general low levels of English mastery by many teachers and a shortage of materials in certain national languages. Beyond the ability to teach properly, language capacity affects professional opportunities such as promotions, further highlighting linguistic inequalities. Moreover, for qualified Arabic-speaking teachers, it reflects 'a process of de-skilling or de-professionalization' (HEART, 2015).

The quality of pedagogic practice and, hence, learning performance cannot be enhanced, in the current context, without long-term intensive language improvement work. It will take years for a critical mass of English-speaking teachers to achieve a level of proficiency sufficient for teaching, and many more before the education system begins to produce fluent English-speaking secondary graduates (HEART, 2015).

4.2.3 School year and teaching time and use

The amount of time spent teaching is recognized today as a critical factor in learning achievement, as is it difficult to expect students to reach certain levels of knowledge and competence if they are not given the necessary time to acquire them.

The school calendar is not uniformly applied throughout the country

The South Sudan school year is regulated by the South Sudan Education Act of 2012 and the National School Calendar. The official length is 210 days spread over 10 months divided into three terms. Around four-fifths (79%) of primary schools stated that their school year lasts 10 months; however, 19% of primary schools reported being open for fewer than 10 months, with the majority operating for 9 months.⁷⁷ Losing one month per year means that over eight years of primary education a student will lose almost a full school year, a situation detrimental to proper learning.

There are large variations in the length of the school year across states (Figure 4.11). In Warrap, 57% of primary schools reported that the school year lasted less than 10 months, while the same situation was found in only 2% of primary schools in Eastern and Western Equatoria. The situation is also critical in Western Bahr el Ghazal, where 36% of primary schools operate for less than 10 months. Reasons for the shorter school calendar may be related to internal migration linked to pastoralism, the use of schools as examination centres, seasonal challenges (too hot or rainy) or simply because the school calendar has not yet been implemented in all schools.

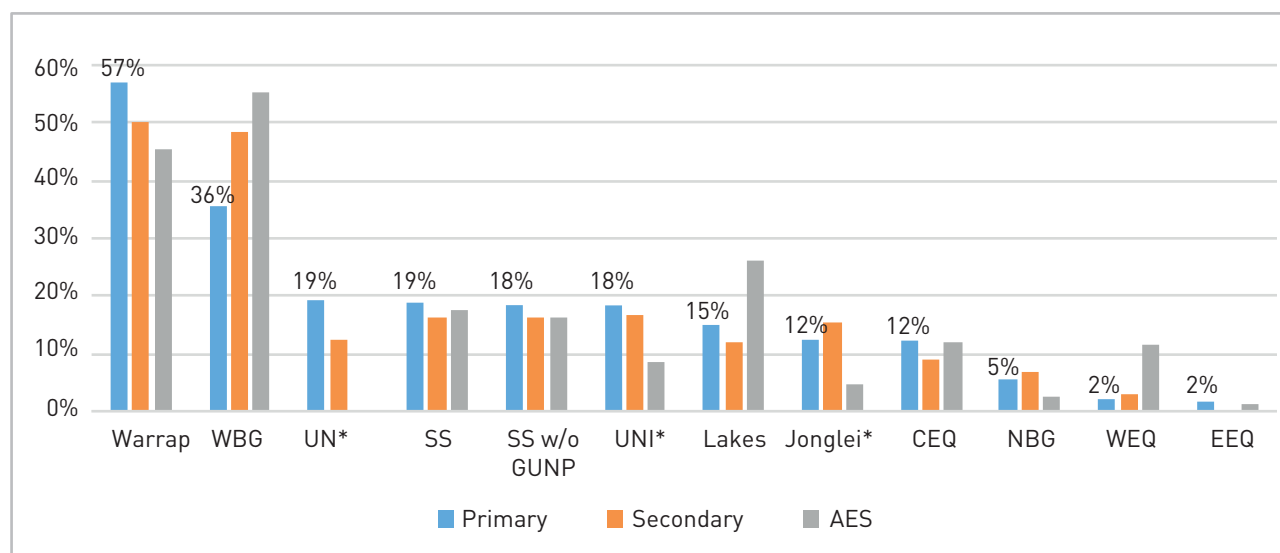
77. 81% of secondary schools operated for 10 months, while 16% operated for 9 or 8 months, and 3% for 11 or 12 months.

Table 4.1. Distribution of primary schools, per school duration, by state, 2014 (%)

	8 months and less	9 months	10 months	11 months and +	Total
Central Equatoria	3	9	84	4	100
Eastern Equatoria	0	2	98	0	100
Jonglei*	6	7	71	16	100
Lakes	3	12	85	0	100
Northern Bahr el Ghazal	2	4	94	0	100
Unity*	1	18	77	4	100
Upper Nile*	16	5	77	2	100
Warrap	4	53	43	0	100
Western Bahr el Ghazal	4	32	61	3	100
Western Equatoria	1	1	96	2	100
South Sudan	3	16	79	3	100

Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

Figure 4.11. Distribution of schools with school calendars less than 10 months, by level and state, 2014 (%)


Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

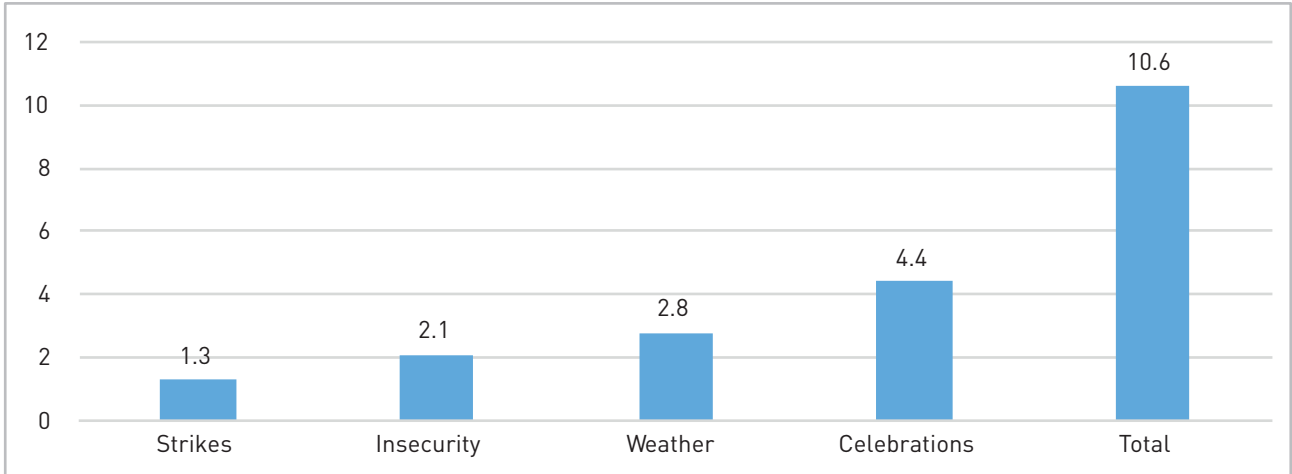
School closure

While shorter school calendars affect teaching time and the ability to cover the syllabus if no remedial measures are taken, many other events might further reduce teaching time. According to the GESS school baseline survey (GESS, 2014a), an average of 11 days a year are lost due to school closure as a result of celebrations, strikes, weather, or insecurity (Figure 4.12).

Absenteeism

Teacher and student absenteeism further reduces teaching and learning time. There is little reliable information on teacher and student absenteeism, and the available data are based on self-reporting. It is therefore reasonable to conclude that absenteeism is more frequent than reported here. The GESS School Baseline Survey presents the main causes for absences among teachers and head teachers (GESS, 2014a). Teachers and head teachers reported an average of 8.3 and 10.8 days of school missed in 2013. The main causes of absence for both teachers and head teachers were reported to be personal ill health or that of a relative, followed by the death of a relative. It is interesting to note that neither transportation nor unpaid salaries or other work were much cited as reasons for missing class time (Figure 4.13).

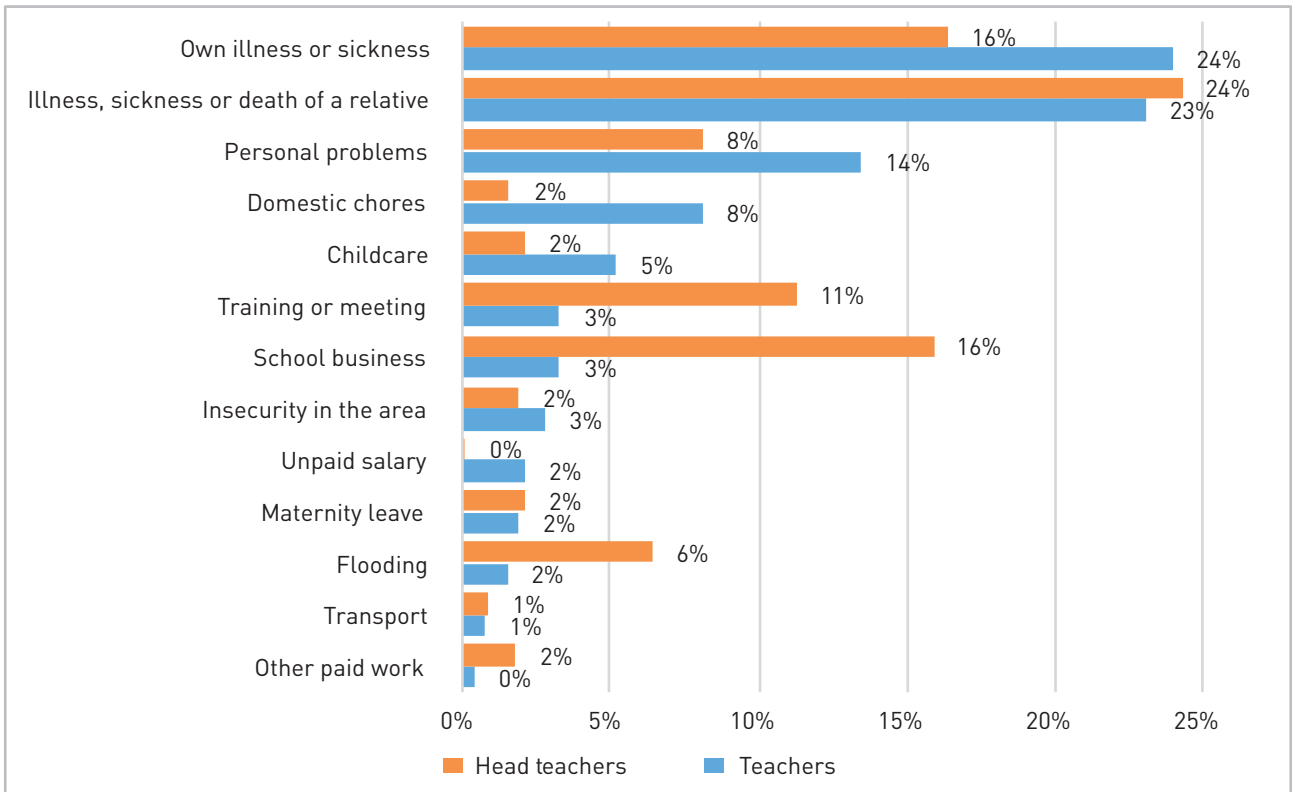
Figure 4.12. Average number of days of school closure, as reported by teachers and head teachers, 2013



Source: GESS, 2014a.

Note: The survey did not cover GUPN states and, as such, might underestimate school closures related to insecurity or attacks.

Figure 4.13. Main reasons for head teacher and teacher absences, 2013 (%)



Source: GESS, 2014a.

With regard to student absenteeism, P5 students self-reported missing an average of 5.2 days from school in 2013, while P8 students reported missing an average of 4.1 days, and S2 students an average of 3.6 days. The reasons cited for missing school were similar to those given by teachers: personal ill-health or that of a relative, followed by the death of a relative.

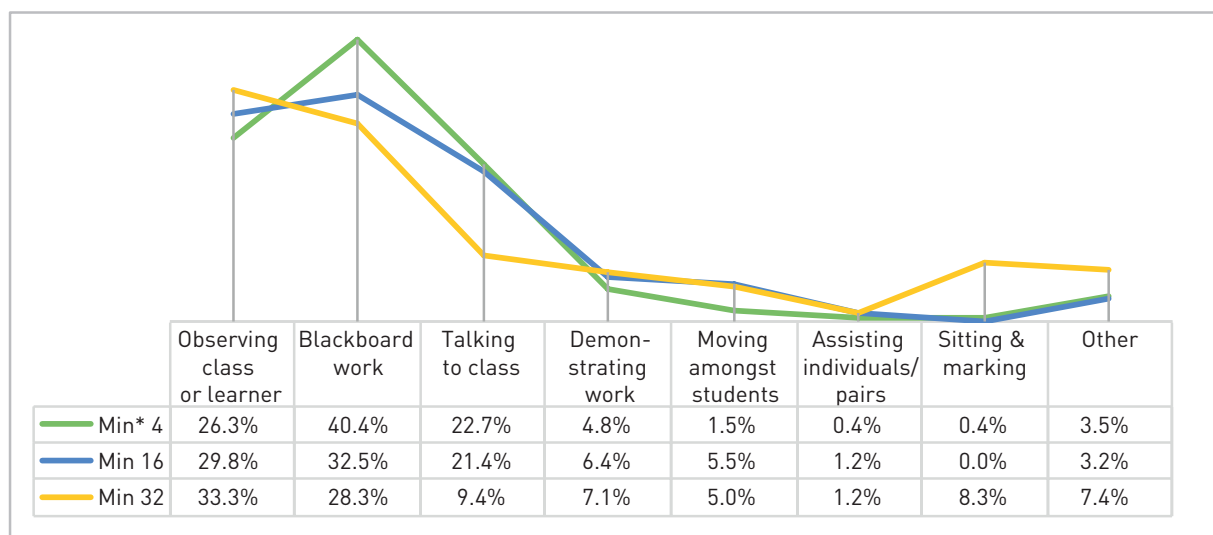
Cumulatively, school closure and teacher and student absenteeism could lead to losses of up to 23 school days per year, equivalent to more than 10% of the total number of official school days. In addition, for those children starting school late the number of school days lost could amount to 60, equivalent to one-third of the school year.

4.2.4 Teaching practice in the classroom

Classroom time is predominantly teacher-centred with little student interaction

The new South Sudanese curriculum framework emphasizes the importance of student-centred learning and active student participation. However, recent observations show that instruction is primarily teacher-centred, and teacher-student interactions are dominated by teacher talk time. Active student engagement in the classroom is minimal, with evidence of high levels of rote learning. There are almost no records of students engaged in creative activities and only very few instances of group work (Figure 4.14) (GESS, 2014a).

Figure 4.14. Type of activities carried out by teachers over the course of lesson observation, 2014 (%)



Source: GESS, 2014a.

Note: *Min = minute of observation.

There may be several explanations for the lack of student-oriented instruction. Many classrooms in South Sudan are overcrowded, especially in the lower grades, with classes of 100 pupils or more found in many cases (see Chapter 5, Table 5.2). Additionally, teachers are often poorly trained and lack the pedagogical knowledge and experience to master a more student-centred approach. There are also gender imbalances with on average twice as many boys as girls, and while girls reported not feeling scared or intimidated, they speak up less than their male counterparts. This high level of reticence may form part of traditional teaching methods that emphasize teacher respect and contribute to students speaking out less (GESS, 2014a). According to HEART (2015), a major constraint stems from the fact that TTIs do not offer differentiated teaching programmes by level and are very theoretical, while expecting teacher-trainees to translate the instruction they receive into classroom practice.

4.2.5 Learning environment and school safety

Students feel quite safe at school despite prolonged insecurity

School safety is a major issue in South Sudanese schools due to prolonged instability. Nevertheless, according to the GESS School Baseline Survey (GESS, 2014a), the majority of boys and girls feel quite safe in the classroom. It is likely that the overall situation is worse, as the states with the highest risk levels – GUPN states – were not covered by the survey. The survey did report a number of severe problems: 25% of girls do not feel safe in school playgrounds, 20% of pupils do not feel safe on their journey to school, and almost half of pupils feel unsafe in school toilets (Table 4.2).

Table 4.2. Share of pupils feeling 'quite safe' or 'very safe' at school, by area of concern and gender, 2014 (%)

	Male	Female	Total
Classroom	85%	85%	85%
Playground	90%	73%	82%
Journey to school	82%	79%	81%
Toilets	54%	53%	54%

Source: GESS, 2014a.

The GESS survey also highlighted things that students like and dislike about school. Overall, children have a positive attitude towards learning, which is very encouraging, but their dislikes raise a number of concerning issues. In particular, a large proportion of pupils expressed fear of punishment, fighting, and hunger. These factors can seriously affect the quality of learning. The report also showed that corporal punishment still occurs quite frequently in primary classrooms, as does gender-based violence (Figures 4.15/4.16).

Figure 4.15. Top three things children like about school, 2014 (%)

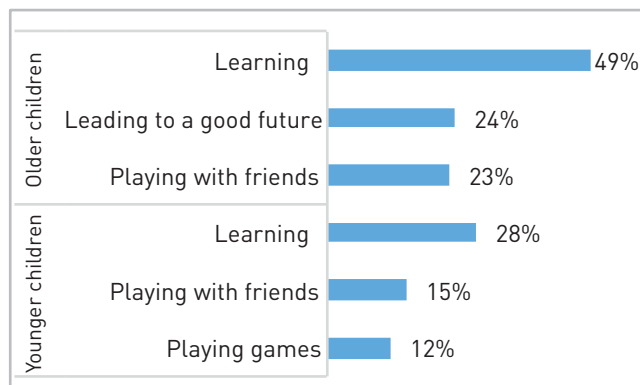
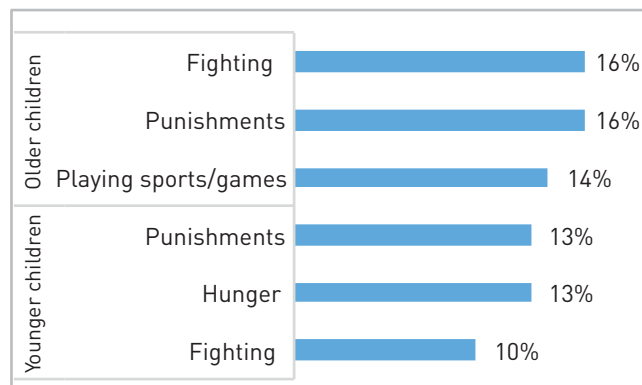


Figure 4.16. Top three things children dislike about school, 2014 (%)



Source: GESS, 2014a.

Various research studies argue that when teachers live and work in stressful security situations, especially areas directly affected by conflict, their capacity to teach and their pupils' capacity to learn are affected. Nevertheless, teachers can play a wider role in the community than just teaching: they can provide a safe space, psychological support, and a means to address structural violence. Psychological support is being provided to both teachers and students in conflict-affected areas through EiE programmes.

4.2.6 School inspection and supervision⁷⁸

South Sudan has an established system of inspection and supervision. However, MoEST's Directorate of Quality Assurance and Standards is currently developing a national inspection framework to harmonize content and quality of guidelines across states, counties, and *payams*. The aim of the framework is to clarify, among others, recruitment criteria and responsibilities of inspectors at each level of the system including the purpose and frequency of inspections, and inspection and supervision procedures such as methods of feedback and consequences for schools that do not meet the requirements stated in policy documents. All MoGEI directorates will be involved in the framework review process to ensure that it meets the needs of all levels of general education.

The education budget makes provision for school inspection and supervision via cash transfers to counties, based on the number of schools in the county. The cash transfers are divided between the county and the *payams*: 40% remains at the county and 60% goes to the *payams*.

National, state, and county inspectors carry out inspections, while supervision is conducted by *payam* supervisors and head teachers. The purpose of inspection is to monitor and identify gaps for improvement in schools in the following focus areas: curriculum implementation, school management, facilities and learning environment, teacher attendance and conduct, and verification of documents (school plans and records). The purpose of supervision is to monitor and provide mentoring on the efficiency and effectiveness of schools, and to identify and suggest areas for improvement. This process looks at student and teacher attendance, teacher classroom handling (to assess teacher performance and training needs, as well as pupil performance), the school environment, and the school's relationship with the community, among others.

At state level, inspectors are designated to ECDE, primary and secondary schools, and private schools. At county level, the expectation is one inspector per *payam*, and each *payam* is supposed to have one supervisor and three assistant supervisors.

The national regulations identify the following procedures for inspection and supervision:

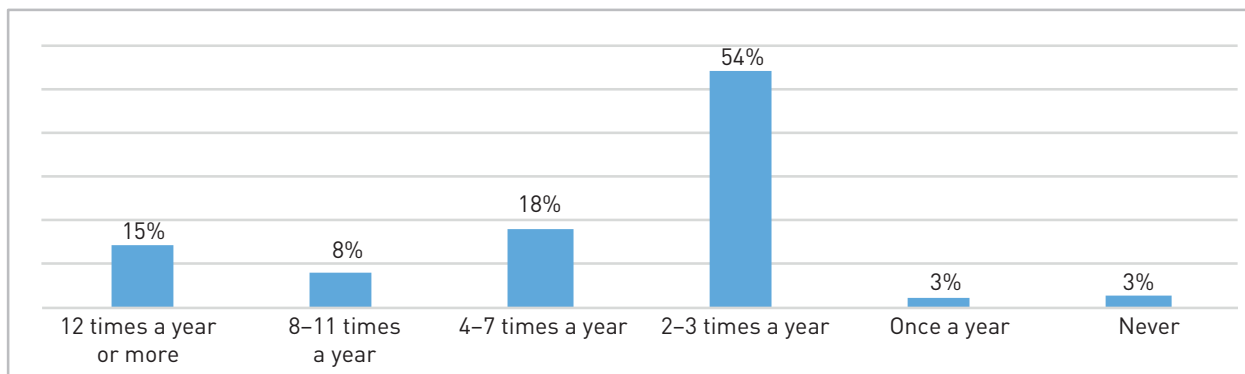
- National inspectors will visit the state once a year to monitor policy implementation and reporting mechanisms.
- State inspectors will monitor policy implementation and reporting mechanisms twice a year at county level.

78. This section is drawn from the GESS *School Baseline County Payam Survey Final Draft Report* (GESS, 2014c).

- County inspectors will visit *payams* and schools once per term (three times a year) to monitor policy implementation and reporting mechanisms at county level.
- *Payam* supervisors will visit schools at least twice per term.
- Head teachers will monitor daily school activities on a daily basis (work plan, scheme of work, attendance, etc.).

On average, each *payam* official is responsible for an average of 9.3 primary schools and 0.8 secondary schools (GESS, 2014c). Supervision from *payam* supervisors should ideally be done at least twice per term or at least six times a year. Based on the GESS *School Baseline County Payam Survey Report* (GESS, 2014c), around 50% of schools receive visits from *payam* supervisors two to three times a year, while only 18% receive visits four to seven times a year (Figure 4.17).

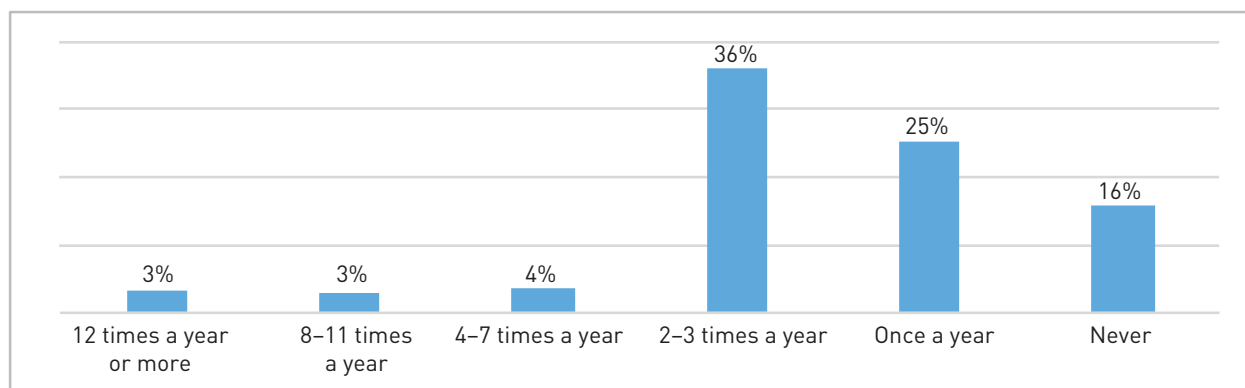
Figure 4.17. Average number of times *payam* officials visited schools in 2013, as reported by *payam* officials (%)



Source: GESS, 2014c.

Payams and schools should receive inspection visits once per term according to regulations. In reality, frequency of inspection does not meet the requirements. The same GESS report (2014c) shows that only 36% of county inspectors sampled in the survey have visited schools each term, 25% have visited only once, and 16% have never visited. This may be due to lack of transport and financial means to visit schools. Lack of competent inspectors and supervisors might also be an issue. Indeed, while most county and *payam* officials have a background in teaching, the majority did not receive proper training to qualify them to inspect schools.

Figure 4.18. Frequency of county inspectors visiting school, 2014 (%)



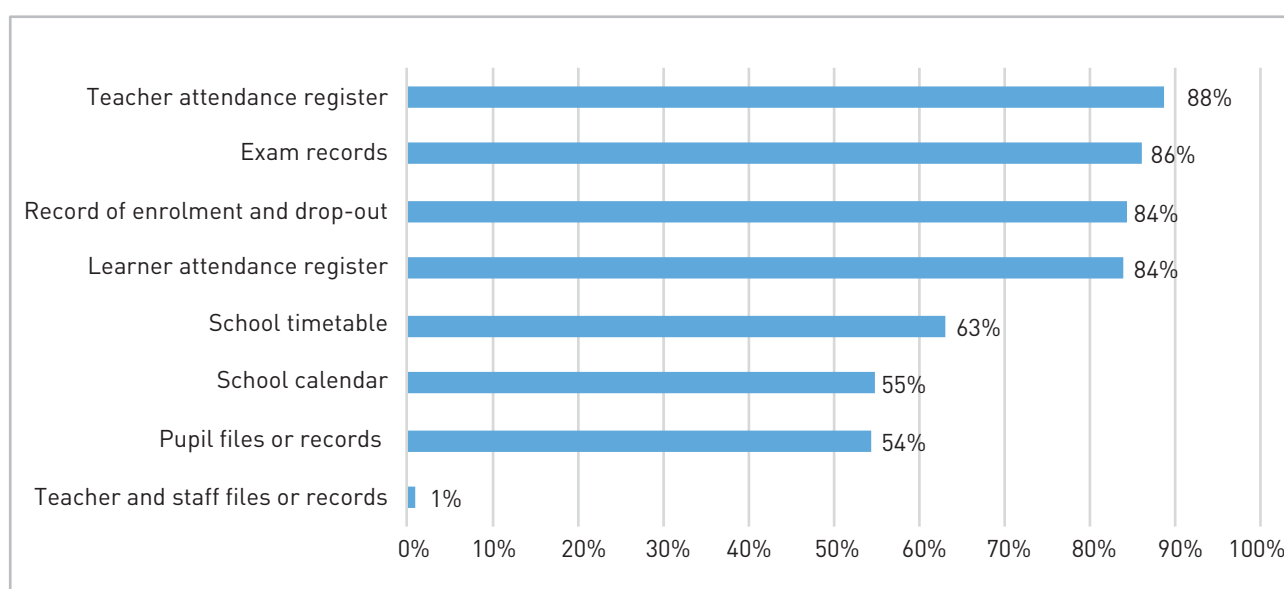
Source: GESS, 2014a.

According to the GESS report, the working environment of county and *payam* education officials is challenging. Less than half of offices are located in permanent structures and many have limited means of communication and a lack of office equipment. Only one-fifth of offices (20% of surveyed counties and 21% of *payams*) have telephones. A high proportion of officials reported using their personal mobile phones and personal or public means of transport to visit schools, as official vehicles were not available. Additionally, less than 2% of offices have internet access, only 29% of county offices and 9% of *payam* offices are equipped with computers, and barely one-third have enough desks for staff. Such lack of access to basic infrastructure, equipment, and communication tools hinders coordination between county and *payam* offices and between *payams* and schools.

In order to provide relevant guidance and supervision, inspectors and supervisors need access to relevant regulations and guidelines, planning documents, and so on. Numerous tools for school inspection exist, including teacher observation forms, lesson assessment tools, school environment and sanitation checklists, and school administration records; however, inspectors do not always have access to these tools. According to the survey, teacher codes of conduct, job descriptions, and the General Education Act of 2012 were the most common types of policy documents available to County Education Officers, while the least available documents were those relating to teacher standards, school guides, and school inspection frameworks. Likewise, job descriptions for supervisors and inspectors already exist, but have not yet been disseminated. While access to documents is important, being able to utilize them correctly is another matter, with many inspectors not receiving guidance on how to use these documents in their work.

Verbal feedback seems to be the most common form of communication between government officials and schools. However, verbal feedback does not allow either party to track progress. Written reports of school inspections are not common practice either, most notably in Central Equatoria. *Payam* officials appear to have a strong involvement with schools, but many schools still do not receive proper supervision. Instead, duties carried out were often limited to checking textbook numbers, observing lessons, and speaking to head teachers.

Figure 4.19. Administrative records that *payam* offices require from schools, as reported by *payam* officials, 2014 (%)



Source: GESS, 2014c.

At school level, the head teacher has primary responsibility for school management and the supervision of teachers. Every school has a PTA, which acts as a school board and coordinates cooperation between communities and schools, such as through fundraising and supporting the performance of teachers and students. School management committees (SMCs) (primary schools) and boards of governors (BoGs) (secondary schools) contribute to the management of schools, facilities, and funds. SMCs are subcommittees of the PTAs. Their responsibility is to develop, implement, monitor, and report on the school development plan and the use of funds. In practice, PTAs and SMCs in primary education were found to be far more prevalent than BoGs in secondary. These groups seem to have a wide range of responsibilities that include supporting schools through communication and monitoring activities. It should be noted that a PTA facilitators' training guide and a PTA manual exist, while SMCs and BoGs also have guidelines for their functions.

4.3 Learning outcomes

Assessment of learning outcomes is based on state and national examinations at primary and secondary level. Literacy and numeracy learning assessments conducted at primary level are performed with the support of the GESS project.

When reviewing the outcomes of primary and secondary education in South Sudan, it is important to bear in mind that the results are based on the very small proportion of students who actually complete primary and secondary schools and sit exams, making them a somewhat biased group.

4.3.1 National and state examinations

The PLE occurs at the end of primary and allows students who pass to proceed to secondary school. The examination is the responsibility of the state, which develops, administers, and processes the results of its own primary leaving exam based on the South Sudan curriculum, while the Department of Primary Examination (DPE) at central level is tasked with moderating state-level primary exams and ensuring consistency of levels and adherence to the curriculum.⁷⁹ Since exams are administered at state level, exam results cannot be compared across states as content and regulations may differ. Plans are underway to unify primary examinations.

Secondary leaving examinations are managed at national level by the Department of Secondary Examination, which develops, administers, and processes the results of the South Sudan Certificate of Secondary Education exam (SSCSE). As the South Sudanese curriculum has not yet been fully implemented in all states, some students still sit the SSCSE exam based on the Sudanese curriculum or the curriculum of other countries. This makes it difficult to compare secondary examination results within and across states.⁸⁰

Pupils in PoCs and those in refugee camps following the South Sudanese curricula also sit national examinations. As yet, no process exists for South Sudanese children displaced in neighbouring countries, such as Egypt, Ethiopia, Kenya, Sudan, or Uganda, to sit exams, as a result of difficulties in locating/tracing them. The South Sudan National Examination Council is seeking the support of partners to adequately address this issue.

4.3.2 Examination pass rates

In 2014, approximately 54,000 students sat the primary leaving exam, up from 40,000 in 2009. Approximately 18,000 of these students (33% in 2014) were studying under the AES. On average, 34% of those who sat the primary exam were female. In Warrap, Upper Nile, and Lakes, significantly smaller shares of female students sat the primary exam. The highest percentage of female students sitting exams was found in Central Equatoria (41%), followed by Western Bahr el Ghazal (37%).

Table 4.3. Primary exams, candidate numbers, and pass rates, by gender and state, 2014

	Candidate numbers				Pass rates			
	Total	Male	Female	% female	Total	Male	Female	GPI (F/M)
Central Equatoria	10 487	6 158	4 329	41%	75%	77%	73%	0.95
Eastern Equatoria	2 937	2 008	929	32%	57%	62%	48%	0.77
Jonglei*	931	604	327	35%	79%	81%	76%	0.94
Lakes	3 989	2 927	1 062	27%	81%	81%	80%	0.99
NBG	13 542	8 930	4 612	34%	85%	87%	80%	0.92
Unity*	828	573	255	31%	85%	87%	80%	0.92
Upper Nile*	627	493	134	21%	86%	88%	81%	0.92
Warrap	9 224	6 533	2 691	29%	85%	91%	70%	0.77
WBG	8 603	5 439	3 164	37%	87%	88%	85%	0.97
Western Equatoria	2 798	1 879	919	33%	71%	74%	65%	0.88
South Sudan	53 966	35 544	18 422	34%	81%	83%	75%	0.90

Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

In 2014, the average primary pass rate in South Sudan was 81% (similar value in 2009). While state comparisons are difficult as state-level exams vary, there is a significant difference between the overall pass rates in some states (57% in Eastern Equatoria to 87% in Western Bahr el Ghazal). Pass rates among boys for the primary exam are systematically higher than among girls (GPI of 0.90).⁸¹ This is especially true in Eastern Equatoria and Warrap (GPI of 0.77), as well as Western Equatoria (GPI of 0.88), where boys do much better than girls.

79. In practice, not all states send their exams to the DPE.

80. Under the Sudanese curriculum, students can sit their secondary leaving examination after S3, but must wait until S4 under the South Sudanese system. Variations in curriculum implementation lead to disparities in examinations, which was highlighted as an important example of inequality for secondary students (UNICEF ESARO, 2015).

81. Although gender parity was assessed nationally in 2009, major gender disparities were recorded in certain states (World Bank, 2012).

In 2014, 11,371 secondary students sat the leaving exam (SSCSE), a number that has more than doubled since 2009 (5,300 total). Half of the students sitting the exam were concentrated in Central Equatoria, highlighting a geographical bias in provision of S4, and perhaps the influx of displaced populations. Very few students who sat the SSCSE exam in 2014 were female (30%). In Warrap, Upper Nile, and Lakes, significantly smaller shares of female students sat the secondary exam. The number of students who sat exams has increased since 2009, as has the number of secondary school students who passed.

Table 4.4 Secondary exam, candidate numbers, and pass rates, by gender and state, 2014

	Candidate numbers				Pass rates			
	Total	Male	Female	% female	Total	Male	Female	GPI (M/F)
Central Equatoria	5 933	3 867	2 066	35%	74%	72%	78%	1.08
Eastern Equatoria	719	535	184	26%	82%	83%	79%	0.95
Jonglei*	118	91	27	23%	79%	76%	89%	1.17
Lakes	230	194	36	16%	79%	85%	44%	0.52
NBG	632	494	138	22%	73%	72%	73%	1.01
Unity*	53	41	12	23%	83%	83%	83%	1.00
Upper Nile*	48	41	7	15%	–	–	–	–
Warrap	914	860	54	6%	88%	87%	98%	1.13
WBG	1 900	1 256	644	34%	65%	75%	45%	0.60
Western Equatoria	824	593	231	28%	73%	74%	69%	0.93
South Sudan	11 371	7 972	3 399	30%	74%	75%	71%	0.95

Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

In 2014, 74% of students who sat the SSCSE passed, representing an increase of 14 points over 2009, when approximately 60% of student passed.⁸² Pass rates vary across states: the lowest results are recorded in Upper Nile, Lakes, and Western Bahr el Ghazal. This variation may be explained by the use of different curricula. On average, boys have higher pass rates (75%) than girls (71%), although disparities have narrowed since 2009, as illustrated by the GPI which has dropped from 0.89 in 2009 (World Bank, 2012) to 0.95 in 2015. This disparity is particularly pronounced in Lakes and Western Bahr el Ghazal. Conversely, in Central Equatoria, Jonglei, and Warrap girls outperformed boys. It is, however, important to note that the number of girls who sit secondary exams is very low, especially in Warrap, where only 54 out of 914 candidates were girls.

4.3.3 Numeracy and literacy assessments

Children are not mastering basic literacy or numeracy skills by the end of primary

Since literacy and numeracy is necessary for learning in all other subjects, it is vital to measure the level of literacy and numeracy at earlier stages and adjust accordingly. South Sudan does not have a national testing system for early literacy and numeracy, but the GESS project in South Sudan has developed and tested learning assessments for numeracy and literacy.⁸³ The assessment was conducted in 2014 and administered at P5, P8, and S2 grades, across a sample of 48 schools (33 primary and 15 secondary) covering 6,673 students (one-third of whom were female) spread across the three grades tested. The assessments tested core competencies in literacy and numeracy (Table 4.5). While the results may not be representative, they provide interesting insights into the learning outcomes of pupils (GESS, 2015).

82. An increase in pass rates does not necessarily imply that the competence level has increased. It may also be an indicator of 'simpler' exams. Since the curriculum has changed it is difficult to make comparisons across time.

83. MoEST with the financial and technical support of UNICEF/GPE, and as part of a technical collaboration with GESS and USAID/Room to Learn, is piloting an early grade literacy and numeracy assessment (P3 level) in various languages, with the intention of developing a literacy and numeracy assessment system.

Table 4.5. Literacy and numeracy assessment results, by grade, 2014 (score and %)

Assessment level	Max Mark	Overall		Boys		Girls		Gender Gap
		Mean mark	% score	Mean mark	% score	Mean mark	% score	
P5 Literacy	16	8.7	54.5%	9.1	56.9%	8.2	51.4%	5.5%
P8 Literacy	19	11.7	61.5%	11.8	61.9%	11.6	61.1%	0.8%
S2 Literacy	30	15.8	52.8%	16.1	53.6%	15.1	50.3%	3.3%
P5 Numeracy	30	12.0	40.1%	12.9	43.1%	11.2	37.2%	5.9%
P8 Numeracy	32	12.9	40.2%	12.9	40.2%	11.9	37.1%	3.1%
S2 Numeracy	32	9.6	30.1%	9.9	30.8%	8.9	27.7%	3.1%

Source: GESS, 2015.

Test results are weak overall, especially for numeracy tests. Scores vary between 53% (S2 students) and 62% (P8 students) in literacy, and between 30% (S2 students) and 40% (P5 and P8 students) in numeracy. P8 students performed better than P5 students on literacy tests, but had similar scores on the numeracy tests. This may indicate improvement in literacy competencies over the years in the former case, and different test levels or weak teaching of numeracy at primary level in the latter. The low scores in S2 may indicate a lack of mastery of competencies (teachers and learners) or might be linked to the difficulty of the assessment. Girls' performance is weaker than boys', especially at P5, but the gap tends to narrow at upper grades.

According to HEART (2015), teachers are not taught how to teach literacy and numeracy in either their mother tongue or English. Therefore, teacher capacity to address issues in early grade literacy and numeracy is limited. In addition, there is a tendency for lower classes to be bigger (see *Table 5.2 in Chapter 5*) and to assign the least qualified teachers to lower grades where foundations are being built, further harming early learning.⁸⁴

The results from these first tests show that the average level of literacy and numeracy is very weak compared with the test standards. They also raise the question of what is really being measured in national examinations, given the relatively good level of pass rates recorded.

Due to the very high dropout rate, most students leave the school system without a minimal level of literacy and numeracy skills. The chance that they will remain illiterate in adulthood is therefore high.

4.4 Key results

Overall, the quality of primary and secondary education is quite poor in South Sudan. The absence of school resources and infrastructure, and few qualified teachers, result in a learning environment that is not conducive to learning. Only a small percentage of pupils complete schooling and many leave the education system without basic literacy and numeracy skills. The protracted conflict and severe natural disasters are also further harming the quality of schooling.

4.4.1 Input factors

The learning and teaching environment is an important aspect of quality, and is particularly poor in South Sudan.

On average, more than one-third of primary schools consist of tent, 'roof', or open-air classrooms. This represents a slight improvement over 2009, when 45% of primary schools consisted of tent, 'roof', or open-air classrooms. This is a major challenge since schools located in structures that cannot withstand rain might not be conducive to proper learning, and are unlikely to function for the whole school year, potentially leading to significant loss of school instruction time, a major element in learning outcomes.

The majority of schools lack basic facilities and learning equipment. The majority of schools in South Sudan lack basic facilities such as water, playgrounds, fences, and health centres. The situation is better in secondary schools, but is especially poor in primary schools. There is large variation between states, but the data show no clear correlation with risk level. This may be because EMIS coverage for GUPN states is very low, so the data may not reflect the actual situation. There is also a lack of basic learning equipment such as chalk, desks, and chairs in many South Sudanese schools, and very few schools have libraries.

84. 'The absence of flourishing supportive literature like newspapers, magazines, fiction and children's books makes language teaching and learning difficult'. According to the GESS training needs assessment conducted in 2014, 'current levels of language competence of both teachers and learners seriously inhibits what can go on in classroom in South Sudan' (GESS, 2014d in HEART, 2015).

Although malnutrition is widespread, school meals do not seem to target the areas most affected. Malnutrition, food shortages, and hunger are widespread in South Sudan, and school meals are important. School meals are offered in 18% of primary schools and 14% of secondary, but there is no clear correlation between school meals and malnutrition. There seems to be a shift among donors to target food programmes to communities instead of schools; however, in many areas schools do not meet the criteria for receiving meals.

4.4.2 Learning processes

The quality of learning is not only affected by the state of the classrooms, but also by process factors such as teaching and instruction, curriculum and language of instruction, teacher conduct, school safety and school management, and guidance and supervision.

A new curriculum framework that addresses safety and social cohesion has been developed for all levels and now needs to be implemented. The new South Sudanese curriculum was finalized in 2015 and is about to be rolled out in all schools. However, new textbooks have not yet been printed and distributed, and a large number of teachers received their education under the Sudanese curriculum. There are still large disparities between states, especially in secondary, and implementation has proven most difficult in the northern states, which primarily speak Arabic.

Language of instruction is a big challenge. South Sudan has a very large number of national languages. The aim is to use a national language of instruction for the first three grades of primary, since children learn better if they are taught in their mother tongue, then switch to English as the formal language of instruction for higher grades. However, there is a lack of teaching materials in national languages and inadequate teacher capacity. Indeed, very few teachers adequately master English, with many coming from an Arabic background, limiting their ability to teach well in the former language.

Instruction is primarily teacher-centred. The new South Sudanese curriculum emphasizes the importance of active student participation. However, in practice, instruction is mainly teacher-centred with very little student activity. The underlying reasons for this situation may be large classes and poor teacher training. Indeed, many teachers lack the requisite pedagogical skills and training opportunities. In spite of this, most children show positive attitudes to learning, but fear punishments and fighting at school.

Not all schools offer the required teaching time. 19% of primary schools and 16% of secondary schools operate for less than the required 10 months each year. Losing a month per year means that over eight years of primary education a student will lose almost an entire school year. Teaching time is further impacted by school closures, and teacher and student absenteeism, which can account for 10% of lost school days. Cumulatively, a child can miss one-third of school as a result of late school starts, school closures, and teacher and student absenteeism, a situation detrimental to proper learning.

Multiple challenges with school inspection make it difficult to properly monitor quality. South Sudan has an established system for school inspection and supervision, performed by county and *payam* officials in accordance with national guidelines. However, in reality, inspection and supervision is often not performed according to standards due to economic constraints, difficulties with transport, lack of competent personnel and, in some areas, insecurity.

4.4.3 Learning outcomes

Assessment of learning outcomes in South Sudan is based on state and national exams at the primary and secondary levels. As yet, there is no systematic early literacy and numeracy assessment system to help adequately monitor quality of learning and set up early remedial measures.

Examination results are positive: 81% of students passed the primary leaving exam and 74% passed the secondary leaving exam in 2014. Very few children in South Sudan reach the end of each cycle, making those who do so a somewhat biased population, which could explain the positive results observed. However, discrepancies between the results observed and the learning assessment raise the question of what is been really measured in national examinations, given the relatively good level of pass rates recorded.

Based on a sample learning assessment, students may not be learning the basics of literacy and numeracy. Functional literacy and numeracy is crucial for further learning in all subject areas. Sample-based literacy and numeracy assessments in P5, P8, and S2 show that the average levels of literacy and numeracy are very weak compared with test standards. Since the dropout rate is also very high, this indicates that a large number of students leave school without the minimum literacy and numeracy skills.

5. Management

Educational policy defines structural choices with respect to the organizational modes and resources made available to each level of education. Management intervenes in the processes through which these decisions are actually implemented with a view to producing the expected results. A well-functioning education system has operative mechanisms that ensure the efficient and effective allocation of resources across schools (administrative management), and its schools enable a maximum number of students to acquire the required skills and competencies (pedagogical management).

This chapter focuses on the administrative management of two major education inputs: teachers and textbooks. The analysis focuses on primary and secondary schools, relying mostly on Education Management Information System (EMIS) data.

5.1. Teacher management

Teachers are directly responsible for equipping students with the necessary skills and knowledge, and are therefore crucial to the delivery of good-quality education. Teacher salaries account for the largest share of recurrent education expenditure, so it is essential that they are managed effectively. This section presents the main characteristics of teachers in South Sudan in 2015 and explores key aspects of teacher management, including recruitment, deployment, training, status, and attrition.

5.1.1 Main characteristics of teachers

The teaching force contains few permanent, female or qualified staff

In 2015, the education system in South Sudan consisted of about 37,500⁸⁵ teachers of whom 64% worked in government schools (Table 5.1).⁸⁶ Across the sector, 60% of teachers held a permanent appointment, ranging from 59% in primary to 73% in secondary. This represents a decrease from 2009 when 64% of primary teachers and 89% of secondary teachers held permanent positions. The relative fall in the availability of permanent staff is mainly the result of financial constraints. The remaining 40% of teachers are either volunteers or part-time staff – both precarious positions – found mostly at primary and AES levels.

Table 5.1. Teacher characteristics, by sector, 2015

	Pre-primary	Primary	Secondary	AES**
Number of teachers	3 148	28 957	3 569	5 237
Number of teachers in government schools	937	19 858	1 939	3 637
% in government schools	30%	69%	54%	69%
% permanent	64%	59%	73%	60%
% female	53%	14%	11%	12%
% qualified*	48%	38%	56%	46%

Source: MoEST, 2008–2015. Authors' computations.

Note: *Teachers' qualifications could not be ascertained for 7% (pre-primary) to 15% (secondary) of staff in 2015 and between 4% and 12% in 2009. **Many AES teachers are also primary teachers. EMIS data do not distinguish between AES teachers teaching in both primary and AES schools and those only teaching in AES schools.

Female staff represent a very small share of teachers, accounting for 14% of teachers in primary and 11% in secondary. These proportions have barely changed since 2009. This situation is the result of a very limited number of female students reaching S4 and passing the SSCSE, the qualification required to enter TTIs and universities.⁸⁷

Qualified teachers are in short supply: 41% of the teaching force was qualified in 2015, ranging from 38% in primary to 56% in secondary. The amount of qualified teachers remains low, but has risen noticeably from 28% in 2009.

85. Many AES teachers are also primary teachers. EMIS data do not distinguish between AES teachers teaching in both primary and AES schools and those only teaching in AES schools. For this report, the authors made a gross assumption that 50% of AES teachers were also primary school teachers.

86. In 2015, 29,000 and 3,600 teachers were working in primary and secondary schools, respectively, compared with 25,000 and 1,700 in 2009. While the number of teachers in secondary has more than doubled, it has increased by 16% over the same period in primary. The number of permanent teachers in primary has risen only slightly, from 16,000 to 17,000 over 2009–2015. Growth in the teaching force has mainly been driven by the recruitment of non-permanent staff.

87. Female staff made up 34% of enrolment in TTIs in 2015, up from 24% in 2009 (World Bank, 2012). While this share has increased it remains low, indicating that the share of female teachers will continue to increase gradually.

Box 5.1. Teacher recruitment and deployment processes in South Sudan: Institutional aspects

Public teacher management issues such as recruitment, deployment, transfer, replacement, promotion, and supervision are carried out by a variety of actors, including MoEST, MoLPS, and MoFEP.* At primary level, the state MoEST is responsible for the administrative management of teachers, and determines and approves the teaching staff employed for each academic year, based on ceiling figures provided by the state MoFEP. Teacher needs are normally determined on the basis of a pupil–teacher ratio of 50:1, applied to the total enrolment of each school on a yearly basis. Teachers are appointed and deployed at county level, usually within their own counties.

At secondary level, responsibility for approving and deploying teachers is shared by the MoEST at central and state level. The former deals with national secondary schools, while the latter manages state secondary schools. Here again, ceiling figures provided by the central and state MoFEP determine the number of teachers to be recruited. While state secondary schools tend to hire teachers locally, national secondary schools hire teachers from various states to promote cultural diversity. However, lack of adequate qualifications, insecurity, and financial constraints may limit recruitment and diversity.

Ultimately, the financial framework set by MoFEP determines the level of teacher recruitment. Such funding has been scarce in recent years, being neither available on a yearly basis, nor uniform across states. This situation prevents schools from recruiting permanent teachers on a yearly basis, and pushes them instead to fill gaps using volunteers and part-time staff, funded by capitation grants or direct contributions from parents. Some states, such as Central Equatoria, have had some success in leveraging local resources (through local state revenues) to support teacher wages. However, this approach can lead to greater state inequities.

Lack of funding tends to shift the responsibility for teacher recruitment away from the central and state MoEST towards schools. This ultimately weakens teacher-posting policies and increases deployment inequities, especially in cases where teacher postings to schools are not properly monitored. In addition, teacher transfers (allowed between and within counties) are difficult to enforce due to lack of financial resources to cover incentives, transportation, and teacher accommodation.

Permanent appointed teachers form part of the civil service and, as such, enjoy similar conditions. Part-time staff are often permanent teachers looking for teaching opportunities to complement their income and are hired directly by schools to fill specific subject needs. Volunteer teachers are hired for the entire academic year, but little is known about how they are recruited, paid, trained, or supervised. Multiple sources of payment are used to pay their salaries including PTA funds, school capitation grants, state MoEST operation grants or Counties Development Funds (CDFs). However, the objective of MoEST is to gradually incorporate qualified volunteer teachers onto the payroll.

Eligible teachers should normally be professionally trained and qualified. At primary level, teachers must have completed secondary school and hold at least a teacher training diploma; at secondary, they must have at least a bachelor degree in education. However, an acute lack of qualified candidates, which is particularly severe in certain areas, has forced schools to recruit unqualified candidates as volunteer teachers or part-time staff, in order to fill the gap. Such shortages of qualified teachers in upper primary and secondary grades could prevent schools from offering those grades. Insecurity can also create obstacles to recruitment, as teachers may be reluctant to work in insecure locations. Localized recruitment (primary and state secondary) could be a solution to this problem, although this may be difficult.

At present, there is no dedicated teacher administrative structure within MoEST (e.g. a Teachers Service Commission)** catering specifically to teachers. Such structures normally coordinate teacher recruitment, deployment, professional development, and supervision, in addition to offering professional, legal, and financial support to teaching staff. Instead, processes are fragmented and do not allow for the efficient and coherent allocation of teachers throughout the territory.

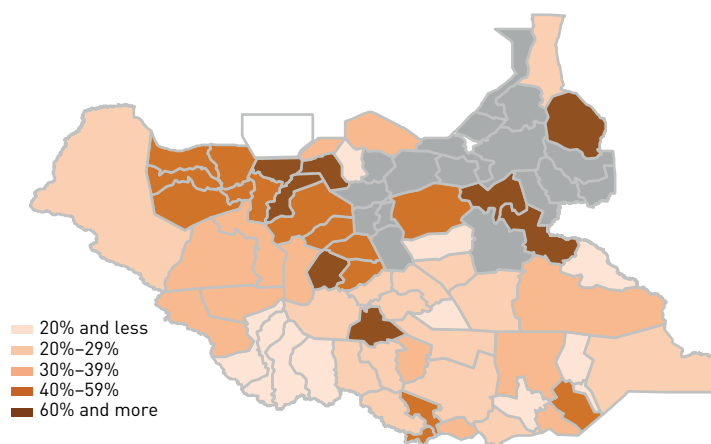
Notes: *Local government ministries are meant to play a role in education governance, as stated in the 2009 Local Government Act on the Responsibilities of State Ministries and Local Government Councils (LGC), including the establishment and management of primary education institutions and the implementation of education policies at local levels, as well as the promotion of peaceful coexistence (GoSS, 2009). However, at present, the involvement of LGCs in education governance is quasi non-existent (UNICEF ESARO, 2015).

**A Teachers Service Commission (TSC) is usually an independent government commission established to manage human resources within the education sector. Its main roles are to: (i) register trained teachers, (ii) recruit and employ registered teachers, (iii) assign teachers employed by the Commission for service in any public school or institution, (iv) promote and transfer teachers, (v) exercise disciplinary control, and (vi) terminate the employment of teachers. Other roles may include: (i) reviewing education standards and the training of individuals entering the teaching profession, (ii) reviewing demand and supply for teachers, and (iii) advising the national government on matters relating to the teaching profession.

More volunteer and part-time teachers are found in high-risk areas

Volunteer and part-time teachers are not found uniformly across the territory. They are mainly concentrated in counties in Greater Upper Nile, Warrap, Northern Bahr el Ghazal, and Lakes (Figure 5.1).

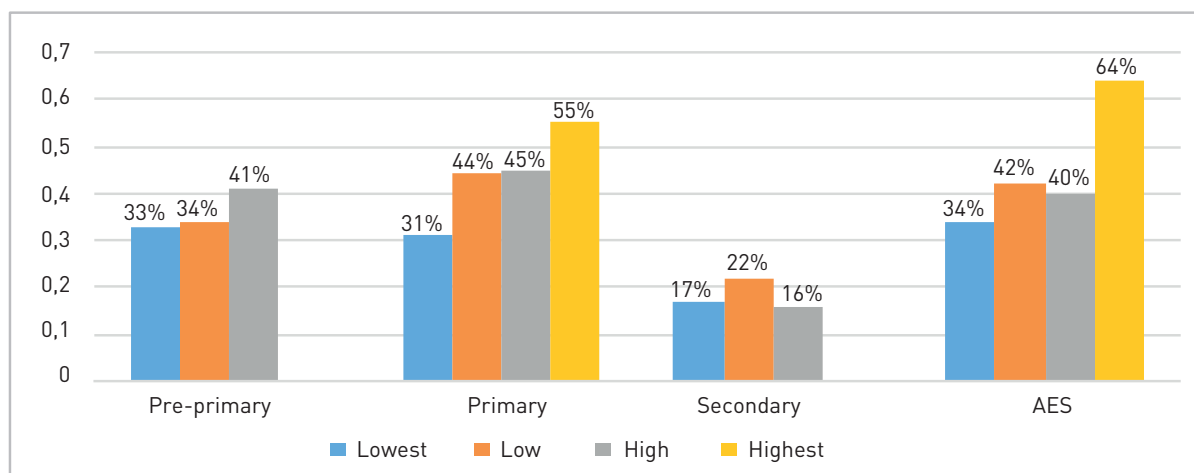
Figure 5.1. Share of volunteer and part-time teachers, government primary schools, by county, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations.

Insecurity may be a major underlying factor (Figure 5.2). Volunteers and part-timers make up around half of the teaching force at primary level and two-thirds of the AES in the riskiest areas, compared with one-third in the lowest risk areas.⁸⁸ These disparities highlight the difficulty of attracting and retaining permanent teachers in risk-prone areas. Additionally, in the northern states the lack of English-background teachers⁸⁹ encourages reliance on volunteers and part-time staff. Some NGOs have carried out IECs in various states over recent years to address this issues.⁹⁰ Ethnic issues might also be a factor, such as in Warrap, where it is difficult to source permanent teachers from certain ethnic groups. Last, but not least, the type of school (non-government run) also affects the type of teachers being recruited. Counties with relatively fewer government-run schools will ultimately employ relatively fewer permanent teachers.

Figure 5.2. Share of volunteer teachers and part-timers, by sector and level of county risk, government schools, 2015 (%)



Source: MoEST, 2008–2015; OCHA 2015 risk index. Authors' computations.

Note: Too few observations were available in the highest risk category for pre-primary and secondary to compute reliable indicators.

88. See Table A1 for a breakdown of districts according to level of risk.

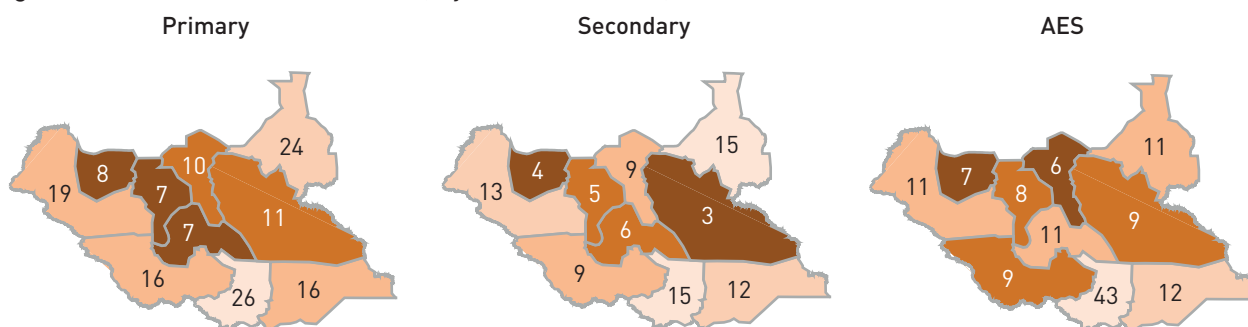
89. Teachers in the northern states mostly come from Arabic backgrounds.

90. An accelerated English language policy was also developed and approved in 2015 (the GPEP Detailed Work Plan Dec 2016–2017).

The share of female teachers is very small and almost non-existent in certain states

Analysis of the share of female teachers by state for primary, secondary, and AES, in 2015, shows that Lakes, Warrap, Northern Bahr el Ghazal, Jonglei, and Unity record the lowest shares of female teachers, while Central Equatoria reports the highest share, across all sectors (Figure 5.3). State disparities in the share of female teachers is a reflection of state disparities in girls' school enrolment. Indeed, the limited number of girls in the schooling system (i.e. the potential pool) leads to a limited number of females in the teaching force. In addition, cultural constraints towards females entering the labour force are also at play, further limiting the number of female teachers in certain states.

Figure 5.3. Share of female teachers, by sector and state, 2015 (%)



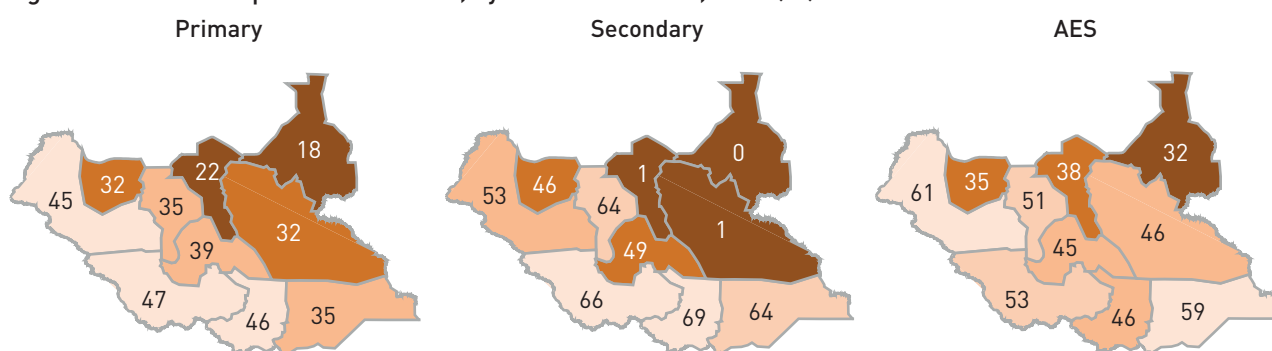
Source: MoEST, 2008–2015. Authors' computations.
 Note: There are very few secondary schools in the GUPN states.

The share of qualified teachers in the GUPN states and Northern Bahr el Ghazal is very small

The distribution of qualified teachers across states is not homogenous. Wide disparities are recorded, with Unity and Upper Nile having the lowest share of qualified teachers at primary (18% and 22%, respectively). This is far behind Western and Central Equatoria where, on average, almost half of primary teachers are qualified. In secondary, lack of qualified teachers is particularly pronounced in Northern Bahr el Ghazal, where only 46% of secondary teachers are qualified.

The lack of qualified teachers in South Sudan results from very limited teacher training opportunities, whether pre-service or in-service (see Table 5.3), and from the recruitment of non-qualified volunteer and part-time teachers to fill the gap. In northern states, many teachers have Arabic backgrounds and, as such, are considered less qualified⁹¹ following the introduction of the South Sudanese curriculum (which uses English), thereby increasing the proportion of unqualified teachers.

Figure 5.4. Share of qualified teachers, by sector and state, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations.
 Note: Teachers' qualifications could not be defined for 7% (pre-primary) to 15% (secondary) of teachers in 2015. There are very few secondary schools in the GUPN states.

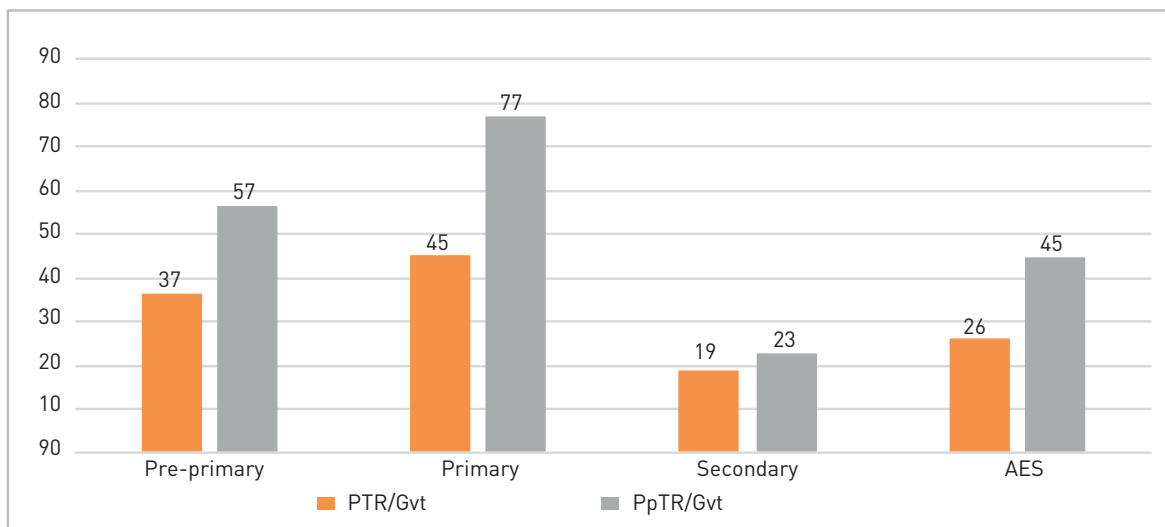
91. Although fully qualified from a pedagogical perspective.

5.1.2 Teacher allocation to schools

Pupil-to-teacher ratios are relatively good thanks to massive reliance on volunteer teachers

The pupil-to-teacher ratio (PTR) in government schools ranges from 19:1 in secondary to 44:1 in primary, while standing at 28:1 in AES and 37:1 in pre-primary. PTRs are much higher when only permanent teachers are considered. In primary, for example, the ratio rises from 44:1 to 75:1. The reliance on volunteer and part-time teachers, especially in primary and AES (representing 40% of teachers), helps to reduce PTRs. In the case of primary, PTRs have reduced to a level below the national target of 50:1. PTRs have also improved since 2009, decreasing from 52:1 to 44:1 for primary education. In secondary education, there is still room for improvement, with the recorded level much below the national target of 40:1.

Figure 5.5. Pupil-to-teacher ratios and pupil-to-permanent teacher ratios, government schools, by sector and teacher status, 2015 (number of pupils per teacher)

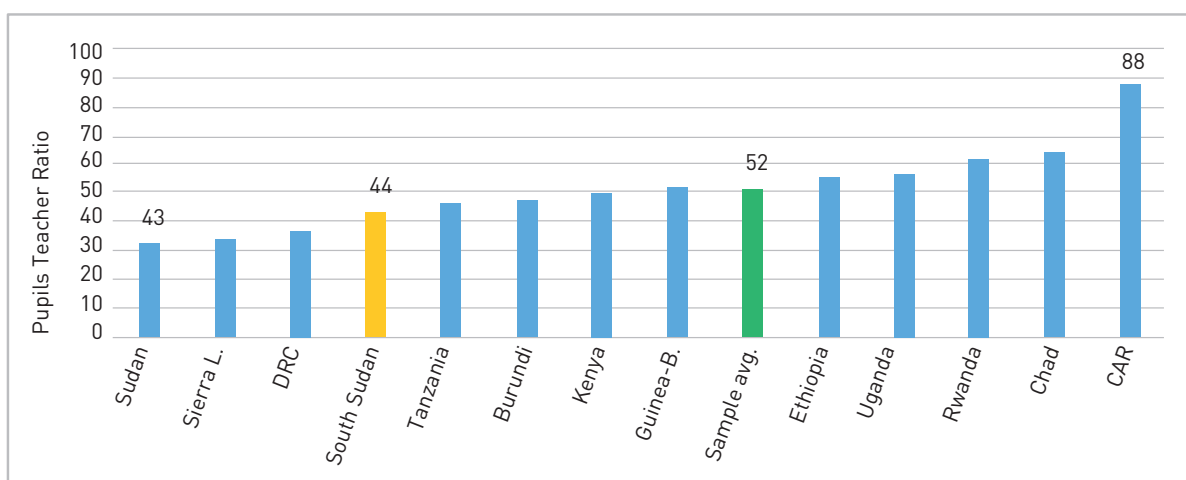


Source: MoEST, 2008–2015. Authors' computations.

Pupil-to-teacher ratios in South Sudan are relatively good

A comparison of PTRs in government primary schools in South Sudan with those of comparable countries shows that South Sudan is in a relatively favourable position with a PTR of 44:1 (Figure 5.6). The average PTR for the sample of countries is 52:1, ranging from 33:1 in Sudan to 88:1 in the Central African Republic. This also holds true at secondary level.

Figure 5.6. Pupil-to-teacher ratios, government primary schools, comparable countries, 2015 or most recent year

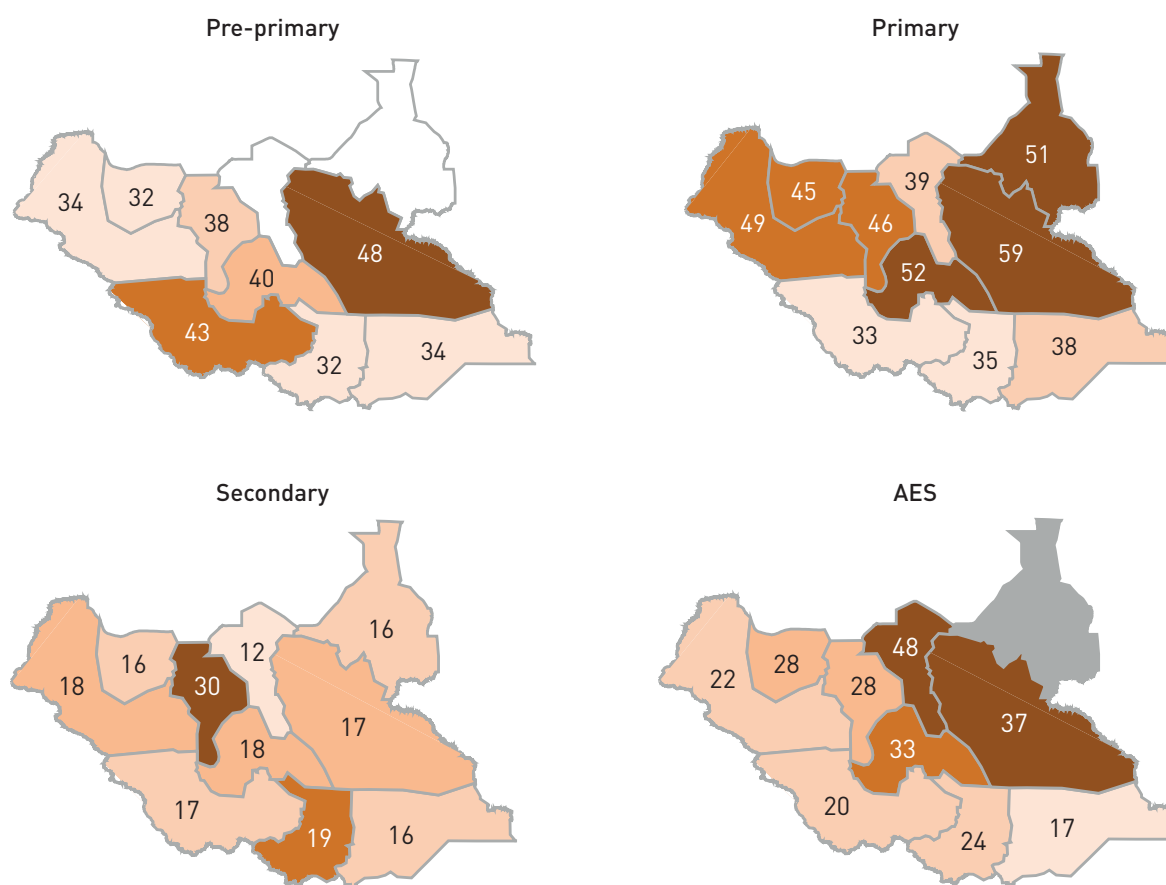


Source: IIEP Pôle de Dakar, 2015.

Averages hide wide disparities

State disparities are strong, especially in primary, where PTRs range from 33:1 in Western Equatoria to 59:1 in Jonglei (Figure 5.7). State averages hide even more important disparities between counties. For example, in Central Equatoria primary PTRs range from 30:1 in Kajo-Keji to 67:1 in Terekeka. Wider disparities are observed in Jonglei, with PTRs ranging from 42:1 in Nyirol to 92:1 in Pibor. PTRs over 100:1 are found in many primary schools, with the highest PTR observed in a school in Rubkona (Unity) with a PTR of 162:1.

Figure 5.7. Pupil-to-teacher ratios, government schools, by sector and state, 2015



Source: MoEST, 2008–2015. Authors’ computations.
 Note: Too few observations were available in certain states for pre-primary and secondary.

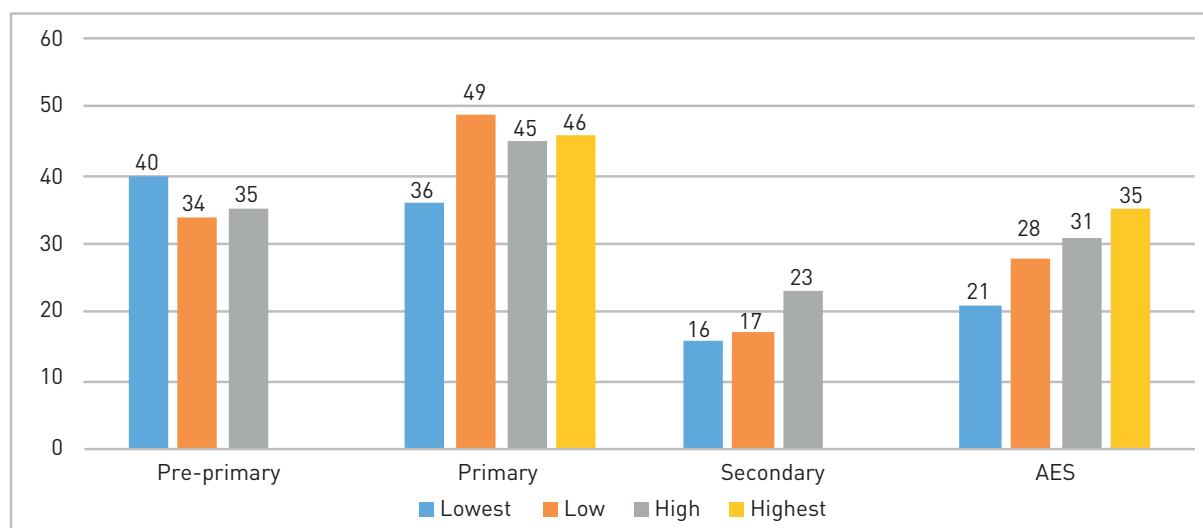
These wide disparities underline the non-equitable allocation of teachers to schools across the territory, which could potentially fuel resentment and grievances. Ensuring a more equitable allocation of teachers to schools is a crucial issue to address in the current fragile context.

Pupil-to-teacher ratios are often higher in high-risk areas

Despite the reliance on volunteers and part-time teachers, PTRs tend to be higher in high-risk zones than lower risk zones (except in pre-primary). As a result, students in high-risk counties face a double penalty of higher risk and poorer teaching conditions, when compared with students in lower risk counties.

Nevertheless, class size remains high, especially in the lowest grades

While PTRs are low, class size is elevated. The average number of pupils registered per class is 56, decreasing from P1 (75 pupils per class) to P8 (39 pupils). Early grades tend to face bigger class sizes, which makes instruction more difficult. This is concerning as smaller class sizes can ensure more adequate follow-up of pupils, which is necessary to adequately build the foundations for future schooling. There is also some evidence that the least-qualified teachers are also assigned to early grades (HEART, 2015), further compounding the problem.

Figure 5.8. Pupil-to-teacher ratios, government schools, by sector and level of county risk, 2015

Source: MoEST, 2008–2015; OCHA 2015 risk index. Authors' computations.

Note: Too few observations were available in the highest risk category for pre-primary and secondary to compute reliable indicators.

Table 5.2. Average class size by grade, state, and county level of risk, government primary schools, 2015 (number of pupils per stream, parity index)

	P1	P2	P3	P4	P5	P6	P7	P8	Primary
South Sudan	75	62	56	50	47	42	40	39	56
Non-GUPN	71	58	53	48	45	42	40	40	53
GUPN	90	82	75	63	59	46	39	36	74
PI highest/lowest risk	1.3	1.4	1.3	1.2	1.1	1.0	1.1	1.1	1.3

Source: MoEST, 2008–2015; OCHA 2015 risk index. Authors' computations.

Class size tends to be bigger at early grades in higher risk counties. Indeed, from P5 onwards little or no variation is registered (parity index close to 1). In secondary, class size is also big at 53 students per stream on average, decreasing from 63 in S1, to 41 in S4.

5.1.3 Coherence in teacher allocation to schools

Teacher deployment to schools displays little coherence

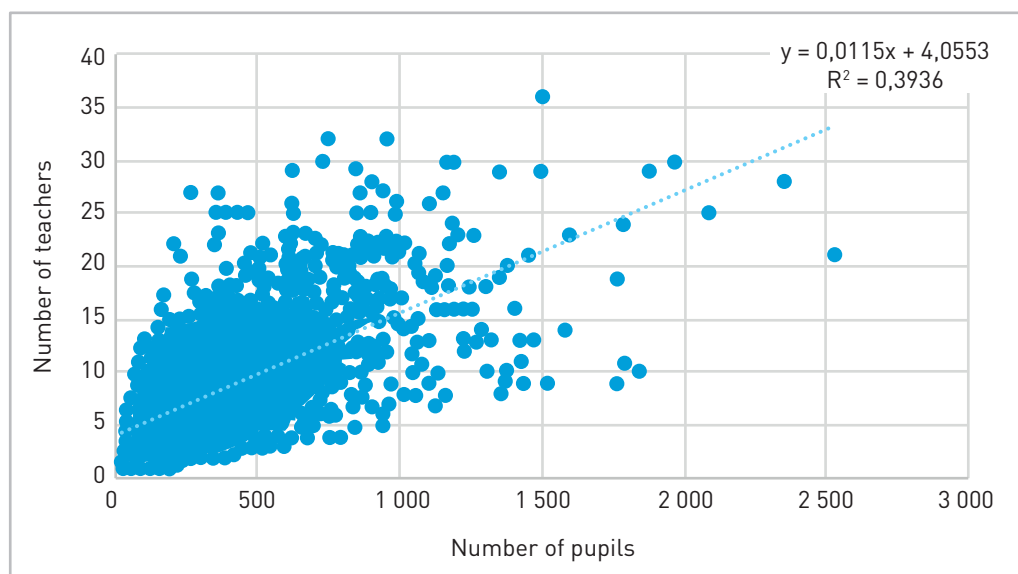
To ensure efficiency and equity, it is necessary to ascertain whether teachers are being deployed where they are most needed and in a coherent manner.⁹²

In 39% of cases (R^2 of 0.39), teacher deployment to schools is explained by the level of school enrolment. This means that in 61% of cases schools of a similar size do not benefit from the same number of teachers. For example, in schools with 500 pupils, one may find between two and 23 teachers. The degree of coherence of teacher deployment varies across sectors. It is relatively stronger in secondary (with an R^2 of 61%),⁹³ but weaker in pre-primary (R^2 of 27%) and AES (R^2 of 22%).

92. Teachers are allocated in a coherent way when their allocation to schools is based on the level of school enrolment. There is an underlying hypothesis that a close relationship exists between the number of teachers and the number of pupils at school level. The strength of the relation between these two variables is synthesized by the coefficient of correlation: R^2 . R^2 represents the degree of coherence in the allocation of teachers to schools. It ranges between 0 and 1, or 0 and 100%, the latter value representing full coherence.

93. The indicator is less meaningful for secondary education as teaching is organized by subject.

Figure 5.9. Number of students and related number of teachers at school level, primary government schools, 2015



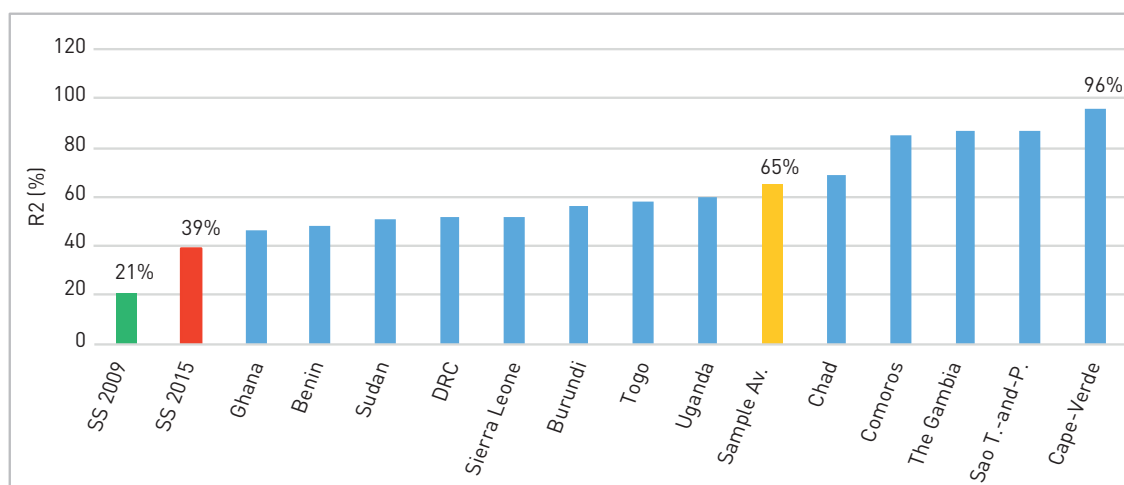
Source: MoEST, 2008–2015. Authors' computations.

Note: Each dot represents a school.

Teacher deployment to schools is among the weakest in the region

Teacher deployment to schools in South Sudan is poor and among the weakest of the sample of comparable countries, based on the above-mentioned criteria. The degree of coherence (R^2) among comparable countries stands, on average, at 65% and ranges between 39% in South Sudan to 96% in Cape Verde (Figure 5.10). This wide range underscores the substantial room for improvement in South Sudan, although the situation has improved significantly since 2009, when teachers were allocated to school according to pupil numbers in only 21% of cases.⁹⁴

Figure 5.10. Comparative analysis of degree of coherence (R^2) in teacher allocation to primary government schools, 2015 or most recent year (%)



Source: IIEP Pôle de Dakar, 2015.

Teacher deployment by state shows marked disparities

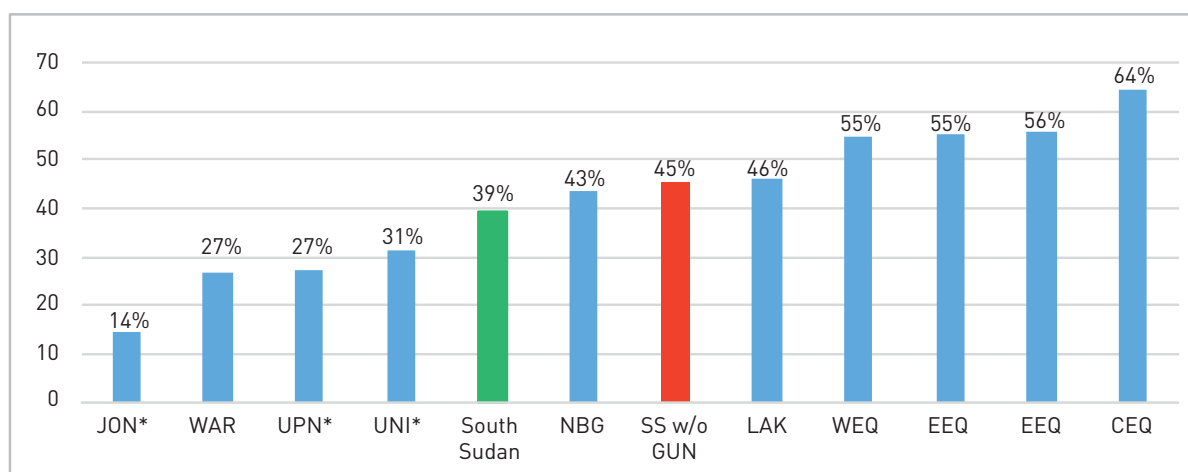
Analysis of primary teacher deployment at state level – the level at which deployment is managed – shows marked disparities in coherence. The degree of coherence (R^2) ranges from 64% in Central Equatoria to 14% in Jonglei, with teacher management quite good in the former and weak in the latter. The level of risk/insecurity might be a factor

94. Figure 5.10 indicates that smaller countries experience somewhat less difficulty in correctly deploying teachers.

here. Indeed, coherence of teacher deployment is strongly affected by the level of county risk, with the R^2 dropping from 58% in the lowest risk counties to 30% in the highest risk counties, resulting in major teacher management difficulties there.

Teacher recruitment and admission standards tend to be poorly implemented (*Figure 5.11*). In some cases, the link between demand and supply of teachers at school level was observed to be minimal (HEART, 2015). This is the legacy of decades of conflict which have disrupted the entire recruitment and deployment process. In addition, widespread insecurity coupled with poor working conditions and opportunities to join the police and military forces (which offer better pay) explain the poor teacher allocation levels observed in Greater Upper Nile and Warrap.

Figure 5.11. Teacher deployment degree of coherence (R^2), primary government schools, by state, 2015 (%)



Source: MoEST, 2008–2015. Authors' computations.

Note: *Under-covered EMIS states.

5.1.4 Teacher training

TTIs cannot currently meet primary teacher training needs

As noted above, a sizeable number of teachers are unqualified. It is therefore important to assess the capacity of the current training system to satisfy their training needs.

Analysis of enrolment figures for TTIs,⁹⁵ short-term training beneficiaries, and the number of teachers in need of training (*Table 5.3*), shows that enrolment stands at 454 for pre-service streams and 140 for in-service streams. This is insufficient considering the 18,000 primary teachers (of whom between 10,000 and 12,000 are in government schools) in need of in-service training.

Enrolment in education faculties has suffered from the drop in overall tertiary enrolment (See *Section 2.2.4 in Chapter 2*). While in the past, education facilities could, *in theory*, cover secondary teacher training needs – 2,660 students were enrolled in education streams in 2012 – only 380 students opted for education programmes in 2015. In addition, not all students embrace the teaching profession after graduation. The same holds true for TTI graduates.

Today, there are seven operational TTIs in the country, four of which are non-government operated. Three are located in Central Equatoria and two each are located in Western Equatoria and Eastern Equatoria (Strømme Foundation, 2015). Three more government TTIs are set to open in 2016 in Western Equatoria, Northern Bahr el Ghazal, and Lakes. Many TTIs were destroyed or damaged during the war, explaining the low number of functioning TTIs and why their locations are skewed towards low-risk states. Analysis also shows that, while functional, existing TTIs are not fit for teaching and learning due to the low quality of tutors and missing or poor quality equipment, libraries, and laboratories (HEART, 2015).

There is no national accreditation and certification system based on agreed national standards for all training regimes. Instead, each TTI sets its own certificate, accredited by the University of Juba. This further weakens the training system, while potentially harming teachers who are perceived as 'not professional'. Current TTI entry requirements also prevent candidates who have not graduated from S4 from joining. This is worrisome, as there are currently very few opportunities for unqualified and untrained teachers to obtain S4, and thus access adequate forms of teacher training (HEART, 2015).

95. For the four TTIs for which information was available.

Table 5.3. TTI enrolment, short-term training beneficiaries, and teachers in need of training, primary and secondary levels, 2015

	Total	Female (%)
Primary level		
Teachers currently in need of training*	18 089	–
Enrolment in four out of the seven TTIs		
Pre-service (two years/certificate)	454	156 (34%)
In-service (four years/certificate)	140	26 (19%)
Number of short-term training beneficiaries (CPD**)	14 857	–
Untrained teachers	5 761	–
Secondary level		
Teachers currently in need of training*	1 560	–
Faculty of education (Three years/diploma and four years/degree)		
2012 intake	2 662	227 (9%)
2015 intake	380	57 (15%)

Source: MoEST, 2008–2015; MoHEST, 2012; MoHEST, 2015.

Note: *This high estimate includes teachers for which the level of qualification could not be defined. **Continuing professional development.

Opportunities to access education training are limited and skewed toward certain states and profiles. Indeed, students in states with no TTIs are deprived of such opportunities,⁹⁶ which leads to under-representation of teachers from these states, ultimately affecting schooling conditions there.⁹⁷ There is also no quota system to ensure marginalized communities (i.e. rural, cattle-keeping and certain language minorities) and women are well represented among teacher trainees. These inclusions could help to break the vicious cycle of low representation of these groups among teachers and students. Revisiting TTI entry requirements is an important measure with potential to offer untrained and unqualified teachers training opportunities, and ensure greater representation of marginalized groups, including women (HEART, 2015; UNICEF ESARO, 2015).

Teachers still benefit from on-the-job training despite many organizational challenges

In-service training through continuing professional development (CPD) is offered in county education centres (CECs) or in schools after teaching hours. These provide some form of initial training for under/non-qualified teachers (enabling them to join TTIs' in-service programmes later) and refresher courses and practice for those already qualified.

While each county should have at least one CEC, lack of funding and/or premises makes this requirement difficult to meet in certain cases. Only 20 CECs were functional in 2015 (Strømme Foundation, 2015). CECs also suffer from inadequate staffing (both in quantity and quality) and teaching and learning materials (as a result of poor funding) to properly support on-the-job training activities for teachers (HEART, 2015). In spite of this, teachers seem to make use of CECs and benefit from on-the-job training opportunities (often offered by schools after teaching hours). According to EMIS data, about 15,000 primary teachers received some form of short-term training in 2015, accounting for half of the primary teaching force.

In general, TTIs and CECs are too poorly funded to function properly and deliver quality training or support. In addition, the lingering conflict and political neglect have affected the development of the training system. However, teacher training is high on the current agenda of MoEST, which as of 2015 provides TTIs with capitation grants to support current functioning. Despite this, sustainable change to professional practice will take a substantial period of time to take effect. It is not only a matter of restructuring teacher education or institutions; it will also necessitate a serious commitment to changing the culture of teaching (HEART, 2015).

Training needs are huge and urgent. Their development will require a multi-modal approach to teacher education which, given current institutional, human, and financial constraints, will take time to set up. They will also require a shared vision among education stakeholders on teacher development and management, including what makes a 'good' teacher and what kind of infrastructure is necessary to deliver quality teacher training (HEART, 2015).

96. While all states should be equally represented (intake is theoretically equitable across states, at 10% for each state), financial and logistical constraints may make this requirement difficult to apply.

97. This will affect the availability of local qualified teachers, which can then impact the availability of certain grades. This creates a vicious cycle as, ultimately, lack of schooling opportunities in certain areas results in a more limited pool from which to draw teacher trainees to train teachers.

5.1.5 Attractiveness of the teaching profession

This section explores aspects related to teacher motivation from the perspective of teacher salaries. Indeed, being able to attract and retain qualified and motivated teachers is critical to ensuring quality teaching.

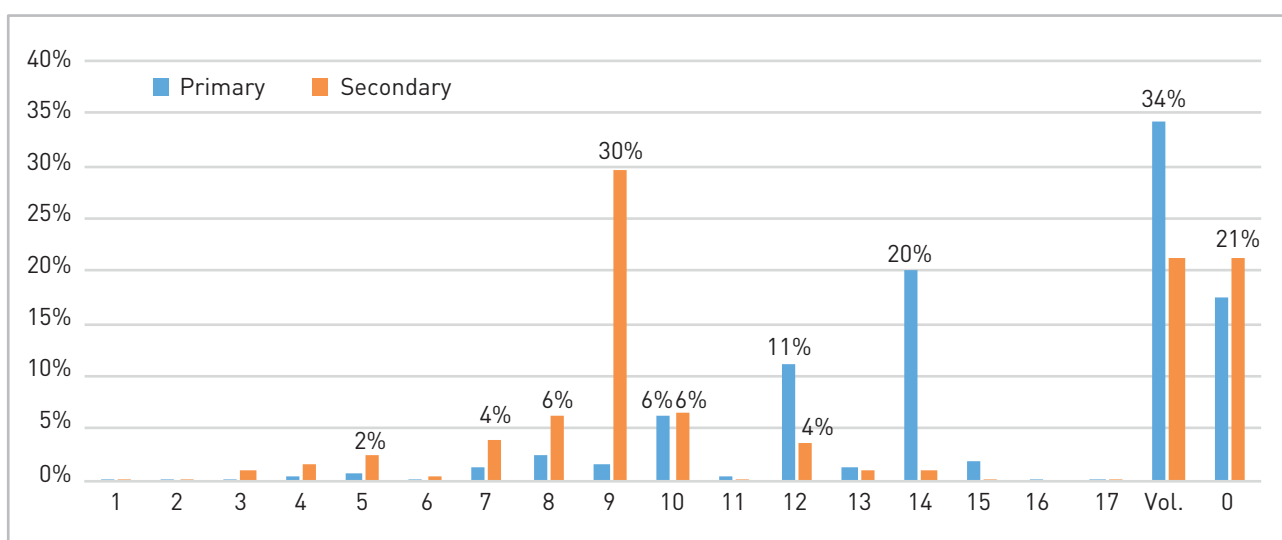
The salary structure is not attractive...

Analysis of the distribution of teachers by salary grade in primary and secondary level shows that half of primary teachers⁹⁸ are in the lowest salary grades, either in Grade 14 (entry level for those with secondary leaving certificate or unqualified in-service) or categorized as volunteers, potentially creating the perception that teaching is a low-status profession. Only 11% of primary teachers are Grade 12 (promotion grade for teachers with at least two to three years of experience, or secondary leavers) and 6% are Grade 10 (diploma holders), while 30% of secondary teachers are Grade 9 (diploma or degree holders); very few of them are found in higher salary grades.

In addition, major discrepancies between states could fuel resentment and frustration. For example, teachers in Western Bahr el Ghazal and Upper Nile with secondary leaving certificates are categorized as Grade 14, while teachers in Jonglei and Lakes with less than a secondary leaving certificate, P8 leavers, and junior secondary school dropouts – albeit with in-service teacher training – receive the same grade.

Overall, the salary structure is unappealing and is skewed toward lower grades and quite flat,⁹⁹ while professional and salary mobility have remained unchanged since 2007. Salary scales are not linked to training, experience or performance, and are not uniform across states (some are linked to the payment of subsidies, such as the chalk allowance, or the provision of top-up salaries), which could potentially act as a de-motivating force and fuel resentment and frustration (HEART, 2015).¹⁰⁰

Figure 5.12. Distribution of teachers, by salary grade, primary and secondary levels, 2015 (%)



Source: MoEST, 2008–2015. Authors’ computations.
 Note: ‘Grade 0’ relates to unclassified teachers and ‘Vol.’ refers to volunteers.

... and salaries are low

On average, a primary teacher receives SSP635/month and a secondary teacher receives SSP1,200/month. Grade 14 teachers (entry level to primary) receive, on average, SSP375/month and Grade 9 teachers in secondary receive around SSP1,100/month.¹⁰¹ Volunteer teacher allowances reach SSP200/month (HEART, 2015), although this amount is not uniform across schools or NGOs. Private for-profit schools tend to pay more: around SSP700–SSP1,000/month.

98. The figure might be even higher, assuming that many teachers recorded as unclassified (Grade 0) could belong to Grade 14. Indeed, in 2009, 34% of primary teachers were in Grade 14, while 4% were in Grade 0 (World Bank, 2012). Private teachers would fall under the latter category, as private schools pay their own teachers.

99. A primary teacher can, in theory, move from Grade 14 to Grade 12, and then to Grade 10, once every three years (three automatic increments). Further advancement after Grade 6 or 9 will require additional certification (a diploma), which may prove difficult to acquire.

100. The retirement age is currently 65 years. There is no pension scheme available.

101. Differences exist in salary scales: Grade 9 national secondary school teachers earn more than state secondary school teachers, as housing allowances are included. As recruitment criteria for national secondary teachers are unclear, salary discrepancies remain a source of major frustration and resentment among state-supported teachers (UNICEF ESARO, 2015).

Government teacher salaries have not been revised since 2007 due to lack of adequate funding. In real terms, their value has halved since 2009. In nominal terms, teacher salaries are now lower than those of the police, military personnel, and security guards, as these professions have recently received large pay increases (HEART, 2015).¹⁰² The rapid depreciation of the value of the SSP against the dollar and high levels of inflation have further eroded teachers' purchasing power.¹⁰³ In early 2016, the government issued an order to triple the salaries of all government employees, including civil servants and organized forces, from Grade 17 to Grade 10, with a view to supporting teacher salaries. Increments were also proposed for managerial staff. However, the measure could not be implemented due to lack of public funding. In addition, delays in the payment of teacher salaries are becoming common.

Lack of public resources is also preventing the payment of allowances (e.g. chalk, hardship or standing allowances) and benefits (e.g. health benefits, fee-free education for MoEST staff) that would allow for increased salaries.

Table 5.4. Level of teacher monthly salary, by salary grade, primary, and secondary levels, 2013/2014 (SSP and \$)

SSP/month	Primary	Secondary
Salary Grade 14	375	372
Salary Grade 12	536	514
Salary Grade 9	1 033	1 097
Average (all salary grades), SSP	635	1 205
Average, \$ formal exchange rate*	215	407
Average, \$, informal exchange rate**	19	35

Source: MoLPS, 2013–2014. Authors' computations.

Note: *\$1 = SSP2.96 in 2013/2014. **The informal exchange rate as of 11 March 2016 was \$1 = SSP34.

Box 5.2. Incentives for teaching facilitators in education in emergency (EiE) contexts

Incentives for teaching facilitators in education in emergency (EiE) contexts are typically aligned with government salary scales. This decision was taken to prevent government school teachers from leaving to teach in EiE schools, where salaries start at SSP300 (equivalent to Grade 14) and reach up to SSP700 (UNICEF ESARO, 2015), with incentives varying between states and organizations.

However, following the recent rapid deterioration in purchasing power, the Education Cluster in coordination with MoEST and donors elected to increase the level of incentives for teaching facilitators to a maximum level of SSP900, the newly set minimal wage of primary teachers. Other agencies also switched to payment in dollars, resulting in pay significantly higher than equivalent payments in government schools. This action resulted in significant tension between schools without external support and neighbouring schools that receive incentives. In some cases, teachers in schools in neighbouring communities went on strike.

Many teachers leave the profession

Teacher attrition is particularly high in South Sudan, estimated at 14% in 2014 (4,600 teachers). Low wages are cited as a major reason why teachers leave the profession. Among those who leave the profession, 48% of primary and 42% of secondary teachers left due to low pay (as reported by head teachers). The issue is more a concern for female teachers than their male counterparts. Lack of motivation is also an issue, particularly in primary, where it was cited as reason for leaving by 9% of teachers. Almost one male primary teacher in 10 left to join the army, which is known to offer better pay conditions.

102. Growing insecurity since 2013 led to the introduction of a more advantageous pay scale for the military and police, designed to attract and retain members at a time of particular need.

103. For many years, the official exchange rate of the SSP versus the dollar was fixed at SSP2.96. Following widespread depreciation, the currency was devaluated to SSP18/dollar and liberalized in December 2015. The currency has nevertheless witnessed continued fluctuation. As of 29 January 2016, the informal exchange rate was SSP24 per \$1, and on 11 March 2016 it reached SSP34 per dollar. This translates into a monthly salary of \$11 for Grade 14 teachers.

Table 5.5. Reasons for leaving the teaching profession according to head teachers, primary and secondary levels, 2015 (%)

	Primary			Secondary		
	Male	Female	Total	Male	Female	Total
Salary too low	46%	53%	48%	41%	54%	42%
Resigned due to lack of motivation	10%	9%	9%	3%	5%	3%
Joined the army	9%	2%	7%	2%	0%	2%
Promoted to management position	6%	4%	6%	7%	5%	6%
Insecurity	6%	6%	6%	5%	3%	5%
Dismissed	4%	4%	4%	11%	8%	10%
Died/prolonged illness/retired	8%	6%	8%	9%	10%	9%
Other/don't know	12%	15%	12%	23%	15%	22%
Total	100%	100%	100%	100%	100%	100%
Number	3 448	742	4 190	390	61	451

Source: MoEST, 2008–2015. Authors' computations.

MoEST is aware of the pressures on teacher retention and is currently working with MoLPS to revise and homogenize the structure and salary scale for MoEST staff (including teachers) across states.¹⁰⁴ As noted earlier, it has increased the salary of all MoEST staff by 300%, from Grade 17 to Grade 10, while some provisions are being put in place to address higher grades. However, lack of funding has prevented implementation of the measure to date. The Ministry has also initiated a process to update the payroll and is developing plans for the provision of accommodation for teachers, with a view to enhancing staff quality, post attractiveness, and retention. It will be important to consider the short, medium, and long-term budgetary consequences of these policies and reforms to ensure their financial and human sustainability.

The new structure proposed by MoEST raises a number of important issues. It will be more demanding in terms of initial qualifications and many staff will need to upgrade in order to maintain their position. The issue of upgrading through different qualification channels represents a major political, technical, and financial challenge.¹⁰⁵ Ultimately, unqualified staff not interested in returning to learning or unable to obtain the required qualifications will be laid off. States are not uniformly affected by the new structure, as some are already deprived of qualified staff.

5.2 Textbook management

This last section briefly explores textbook management practices to assess whether the processes involved are equitable and efficient. Textbooks are among the most cost-efficient education inputs and therefore make an interesting subject for analysis (Majgaard and Mingat, 2012).

5.2.1 Textbooks are in short supply and distribution to schools is poor ...

Analysis of the distribution of English and mathematics textbooks in primary education results in two indicators: the number of pupils per *useful*¹⁰⁶ textbook and the degree of coherence in the allocation of textbooks to schools (Table 5.6). On average, there are three pupils per textbook for both English and mathematics – far from the policy objective of 1:1. The number of pupils per textbook ranges from 2.3 to 5.5, with upper grades facing a more acute lack of textbooks (five pupils per book) than lower grades (2.5 pupils per book) in both subjects. There is no coherence in the distribution of textbooks (R^2 is close to 0%) and the allocation seems very random.

104. For example, MoEST issued a proposal to upgrade all primary teachers from Grade 14 to Grade 12, in accordance with upgrades to academic and professional qualifications (S4 leavers plus certification from TTIs).

105. Indeed, thousands of people are in need of upgrades. This will entail logistical challenges and heavy financial implications.

106. The number of books is capped at the number of pupils at grade/school level.

Table 5.6. Distribution of English and mathematics textbooks, primary, by grade, 2015

	English		Mathematics	
	Number of pupils per textbook*	Coherence (R2)	Number of pupils per textbook*	Coherence (R2)
P1	2.6	2.4%	2.6	2.3%
P2	2.4	0.9%	2.5	0.7%
P3	2.3	2.0%	2.4	1.9%
P4	2.3	2.9%	2.4	2.7%
P5	3.7	1.2%	3.9	0.5%
P6	4.2	0.6%	4.5	0.1%
P7	4.9	0.1%	5.3	0.0%
P8	5.0	7.1%	5.5	4.9%
Primary cycle	2.7	4.1%	2.8	2.7%

Source: MoEST, 2008–2015. Authors' computations.

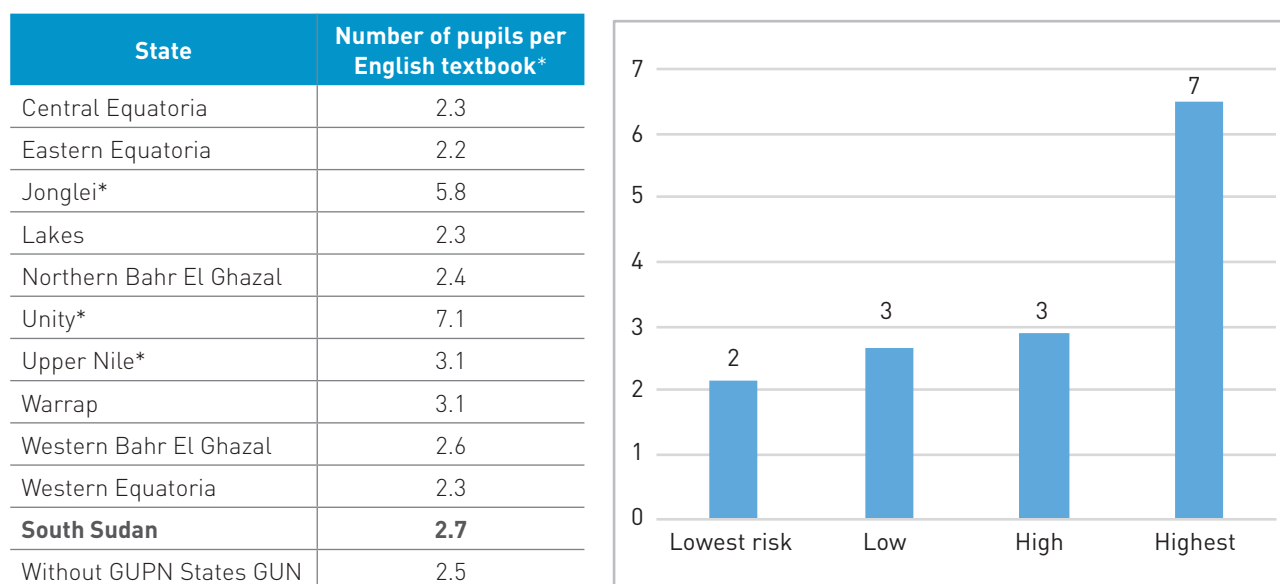
Note: *The number of textbooks has been capped at the number of pupils at grade/school levels to account for useful textbooks.

... particularly in high-risk areas

The distribution of textbooks is particularly problematic in high-risk areas. The textbook-to-pupil ratio is quite high in Unity and Jonglei, at 7 and 6, respectively, while the ratio is lower in the Equatorial states and Lakes at around 2.3 pupils per textbook (Figure 5.13).

The level of risk also has a strong impact on the allocation of textbooks, with the number of pupils per English textbook more than tripling, from two to seven, from the lowest to the highest level of risk.

Figure 5.13. Number of pupils per English textbook,* primary level, by state (left) and level of risk (right), 2015



Source: MoEST, 2008–2015; OCHA 2015 risk index. Authors' computations.

Note: The number of textbooks has been capped at the number of pupils at grade/school level to account for useful textbooks. *Under-covered EMIS states.

Textbook distribution management has major flaws

Distribution of textbooks last occurred in 2013¹⁰⁷ and major inefficiencies were recorded in the distribution chain. While textbooks were produced and printed outside the country (South Korea),¹⁰⁸ they were distributed by a private company from Mombasa Port in Kenya directly to schools¹⁰⁹ via trucks, with little coordination and oversight from either the central or state-level MoEST. Ultimately, many textbooks did not reach the schools and/or not in adequate numbers. In addition, some textbooks may have been destroyed or looted in conflict areas. A new textbook policy has been developed and is currently being validated. The aim is to help improve the efficiency of textbook management by establishing a cost-efficient system of textbook production and distribution. However, funding remains an issue, as textbook financing is still dependent on external funding, which is not guaranteed.

5.3 Key results

The teaching force contains few permanent, female, and qualified staff. In 2015, the education system in South Sudan consisted of 35,500 teachers of whom 64% were working in government schools. Sixty per cent of teachers held a permanent appointment, ranging from 59% in primary to 73% in secondary. Female staff represented a very small share of teachers, accounting for 14% of teachers in primary and 11% in secondary. These proportions have barely changed since 2009. The number of qualified teachers ranges from 38% in primary to 56% in secondary. The amount of qualified teachers remains low, but has risen noticeably from 28% in 2009. Furthermore, TTIs and CECs cannot currently meet quantitative or qualitative primary teacher training needs.

Pupil-to-teacher ratios are relatively good thanks to massive reliance on volunteer and part-time teachers. The PTR in government schools ranges from 19:1 in secondary schools to 44:1 in primary schools, while standing at 28:1 in AES and 37:1 in pre-primary. The ratio has improved overall, decreasing in the case of primary education from 52:1 in 2009 to 44:1 in 2015. PTRs are much higher when only permanent teachers are considered. In primary, for example, the ratio rises from 44:1 to 75:1. The reliance on volunteer and part-time teachers, especially in primary and AES (representing 40% of teachers), helps to reduce PTRs. In the case of primary, PTRs have reduced to a level below the national target of 50:1.

Strong disparities are observed across states and counties, and also vary according to the level of county risk. State disparities are strong, especially in primary, where PTRs range from 33:1 in Western Equatoria to 59:1 in Jonglei. State averages hide even more important disparities between counties. For instance, in Central Equatoria primary PTRs range from 30:1 in Kajo-Keji to 67:1 in Terekeka. Wider disparities are observed in Jonglei, with PTRs ranging from 42:1 in Nyirol to 92:1 in Pibor. PTRs over 100:1 are found in many primary schools, with the highest ratio observed in a school in Rubkona (Unity) with a PTR of 162. These wide disparities underline the non-equitable allocation of teachers to schools across the territory, which could potentially fuel resentment and grievances.

PTRs tend to be higher in high-risk zones than in low-risk zones (except in pre-primary), despite the recruitment of volunteer teachers. This underlines the difficulty of attracting and retaining teachers in those areas. As a result, students in higher risk counties face a double penalty of higher risk and poorer teaching conditions.

While PTRs are relatively low, class sizes are elevated, especially in lower grades, suggesting a shortage of teachers. The average number of pupils registered is 56, decreasing from P1 (75 pupils per class) to P8 (39 pupils). Early grades tend to face bigger class sizes, which makes instruction more difficult. This is concerning as smaller class sizes can ensure more adequate follow-up of pupils, which is necessary to adequately build the foundations for future schooling. Class size tends to be bigger at lower grades in higher risk counties.

Teacher deployment to school shows little coherence. In 39% of cases (R^2 of 0.39), teacher deployment to schools is based on school enrolment – the weakest level among comparable countries. State analysis of teacher coherence displays marked disparities: the degree of coherence (R^2) ranges from 64% in Central Equatoria to 14% in Jonglei, with teacher management quite good in the former and weak in the latter. Coherence of teacher deployment is strongly affected by the level of county risk/insecurity, with the R^2 dropping from 58% in the lowest risk counties to 30% in the highest risk counties, highlighting important teacher management difficulties there.

Teacher recruitment and admission standards tend to be poorly implemented. In some cases, the link between demand and supply of teachers at school level was observed to be minimal. Widespread insecurity coupled with poor working conditions and opportunities to join the police and military forces (which offer better pay) explain the poor allocation of teachers in Greater Upper Nile and Warrap.

107. Given the lifespan of a textbook in South Sudan (five years), most textbooks should still be in circulation. However, in many countries in sub-Saharan Africa, the lifespan of a textbook is closer to three years.

108. The unit cost of textbooks in South Sudan is close to \$2 (including transport), a figure similar to that of other countries.

109. MoEST has no warehouse to stock textbooks and storage facilities are not available in all states or counties.

A salary structure skewed towards lower grades, lack of promotion since 2007, low salaries, and delayed salary payments make the teaching profession unattractive. Teacher salaries have not been revised since 2007 and have halved since 2009. In nominal terms, teacher salaries are now lower than those of the police, military personnel, and security guards, as these professions have recently received large pay increases (HEART, 2015). The rapid depreciation of the SSP against the dollar is further eroding the purchasing power of teacher salaries. Teacher attrition (14%) is high and is mainly driven by low wages and poor motivation.

Textbooks are in short supply and are poorly allocated to schools, especially in risk-prone areas. On average, there are three pupils per textbook for both English and mathematics. The number of pupils per English textbook has more than tripled, from two to seven, from the lowest to the highest level of risk.

Developing and implementing a clear teacher management policy, tackling recruitment, deployment, training, status, pay and incentives, and professional development will prove decisive in attracting and retaining qualified teachers. They will help to ensure coherent deployment and build a strong and competent teaching force. More coherent and better use of teachers leads to significant cost-saving and efficiencies. Equity should also drive future allocation practices to reduce inequitable allocation of education inputs, as this has the potential to strengthen social cohesion by offering children equal opportunities, regardless of location, while lessening resentment and frustration. Special attention should be paid to risk-affected areas, which tend to be less well-endowed, so as to contribute to greater equity, social cohesion, and social justice.

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Annex 1: Data Limitations

South Sudan is characterized by a severe lack of reliable basic economic and social statistics – a legacy of decades of civil war and the many challenges that confront states and institution building. The lack of basic socio-economic statistics across all sectors and the weak statistical system constitute major constraints on management, and go some way to explaining why most conventional economic and social statistics are approximations.

Population data: This report faced several data limitations. Population projection data are based on the 2008 household census and are therefore out of date. In addition, a significant proportion of mass population displacements and deaths since independence are not captured and projections by the NBS differ significantly from those produced by the UN Population Division.

Social data: There is a dire lack of social data, in particular relating to health and nutrition, poverty, and literacy, with discrepancies found across sources. No major national household survey has been carried out since 2010.

Macroeconomic and financial data: Discrepancies exist between macroeconomic data from different sources. These include different fiscal bases between independence and post-independence, as well as between GDP reporting (calendar year) and government fiscal years (July–June). In addition, the lack of quarterly GDP reporting means that economic data have been averaged. Lastly, detailed outturn data for 2014/2015 was unavailable during the development of the report. FY 2013/2014 was used as base year for detailed education costs analysis, and while states have their own budgets, there is very little state-level disaggregation in financial reporting.

Payroll data: Accessing state payroll data proved to be difficult. While the Ministry of Labour and Public Service (MoLPS) has introduced a new payroll recording system entitled SSEPS (South Sudan Electronic Payroll System), which allows state administrative officials to enter monthly data on each person on the payroll, the information is not consolidated at the central level, despite being submitted. It was also not possible to track information on a monthly/yearly basis. Payroll data analysis relied on state-level payroll records for one month over 2013 and 2014, but it was not possible to obtain payroll records for the same month/year for all states. However, classified staff numbers on SSEPS did not change much between 2013/2014 and 2014/2015, according to the 2014/2015 MoFEP Budget Book. The dataset also has several flaws related to improper recording of staff characteristics (e.g. category, workstation, job titles), which necessitated careful verification and correction of the data. In addition, a number of former staff and unproductive staff including retirees were incorporated, further complicating analysis of the payroll. The education staff payroll is currently being updated as part of the setup process for the new human resources information system (see next entry).

Human resources data: Complete records of MoEST human resource (HR) data were unavailable. The last HR administration headcount was conducted in 2011/2012, while a similar exercise took place in 2015, but these data were inaccessible. However, MoEST is currently setting up an education human resources system (HRIS) intended to establish a comprehensive and reliable set of baseline data for all staff in the education sector both on and off the government payroll. A pilot exercise is currently being conducted in Eastern Equatoria and Western-Bahr-el Gazal.

Donor funding: Government record-keeping of international funding for off-budget projects is improving, but has not been systematic for the period under consideration. Donors often choose not to report their expenditures to the government and instead fund education directly, either through infrastructure or capacity-building. Although they work with local governments to implement these processes, the financial allocations are consistently under-reported, if reported at all.

Education Management Information System data: Since its inception in 2007, EMIS has undergone major improvements covering an increasing number of sectors, from pre-primary to secondary, including primary and AES. However, data on TVET, TTIs, and higher education are not available on a yearly basis. The system suffers also from major issues: at present, there is no master list of schools and the quality of response is still poor (e.g. many responders do not know how to respond or leave the form blank). MoEST with external technical support is currently deploying efforts to address these issues. It should be noted that no school census took place in 2014 due to contractual issues with external technical assistance.

Annex 2: OCHA Risk Index

On a regular basis, OCHA consolidates a series of indicators collected by humanitarian clusters at county level to construct four main 'relative severity of needs' indexes for proper tracking of situation and response. These indicators are as follows:

- 1. Relative severity of needs – conflict and displacement indicator:** based on the number of displaced people, levels of market disruption, the number of functioning health facilities per person, the number of occupied schools, and the number of people per water source.
- 2. Relative severity of needs – death, injury, and disease indicator:** based on disease outbreaks, number of people per health facility per county, number of displaced people, food security classification (Integrated Phase Classification, IPC, May–July 2014), and number of people per water source.
- 3. Relative severity of needs – food and livelihoods insecurity indicator:** based on the food security analysis in the IPC. County-by-county food insecurity is classified using various indicators, including mortality rates (where available), malnutrition, Body Mass Index, food consumption and availability, coping strategies, and changes in livelihoods.
- 4. Relative severity of needs – widespread malnutrition indicator:** based on the nutrition analysis in the IPC which categorizes nutrition by county as: Alert, Serious, Critical, or Very Critical.

These four indicators are then averaged, using a weighted formula, to establish a synthetic risk index. For this sector analysis, synthetic indexes provided by OCHA for October 2014 and April 2015 were averaged to determine a synthetic risk index for early 2015 (i.e. the mean of *Table A1*), that coincides with the beginning of the school year in South Sudan. Indeed, the higher the value, the higher the level of risk.

Counties were then ranked by the mean index value and divided equally into four groups, forming four levels of risk from 'low' risk to 'most critical' risk. Counties belonging to the first quarter (i.e. those with the lowest values) were classified as low risk counties (Level 1), and so forth.

This level of risk was eventually merged with EMIS data at country level to map areas with the highest risk and to assess the potential effect of risks on a variety of schooling indicators (see *Chapters 2, 4, and 5*).

Table A1. OCHA level of risk index, by county, October 2014 and April 2015

State	County OCHA	Index 2014	Index 2015	Mean	Level of risk	State	County OCHA	Index 2014	Index 2015	Mean	Level of risk
Jonglei	Canal	0.68	0.80	0.741	4	Warrap	Twic	0.33	0.33	0.330	2
Jonglei	Duk	0.79	0.68	0.733	4	Lakes	Rumbek North	0.25	0.39	0.323	2
Upper Nile	Baliet	0.76	0.64	0.703	4	EEQ	Ikotos	0.21	0.42	0.317	2
Unity	Rubkona	0.73	0.65	0.693	4	NBG	Aweil East	0.38	0.24	0.312	2
Upper Nile	Luakpiny/Nasir	0.65	0.68	0.663	4	WBG	Wau	0.33	0.29	0.307	2
Unity	Panyijiar	0.66	0.64	0.653	4	NBG	Aweil West	0.32	0.29	0.304	2
Jonglei	Fangak	0.58	0.70	0.643	4	NBG	Aweil South	0.25	0.35	0.304	2
Upper Nile	Malakal	0.57	0.70	0.633	4	EEQ	Kapoeta East	0.28	0.31	0.294	2
Jonglei	Ayod	0.58	0.62	0.603	4	Unity	Mayendit	0.31	0.26	0.286	2
Upper Nile	Longochuk	0.51	0.68	0.598	4	EEQ	Lafon	0.25	0.31	0.283	2
Unity	Pariang	0.65	0.51	0.581	4	NBG	Aweil Centre	0.34	0.22	0.282	2
Upper Nile	Panyikang	0.67	0.49	0.578	4	Warrap	Tonj East	0.21	0.33	0.271	2
Upper Nile	Ulang	0.50	0.65	0.574	4	Lakes	Rumbek East	0.21	0.32	0.267	2
Unity	Mayom	0.63	0.52	0.572	4	WBG	Jur River	0.11	0.42	0.266	2
Unity	Koch	0.61	0.52	0.565	4	EEQ	Kapoeta North	0.24	0.27	0.254	2
Jonglei	Nyirrol	0.58	0.53	0.556	4	CEQ	Terekeka	0.22	0.24	0.230	2
Jonglei	Uror	0.58	0.51	0.545	4	Warrap	Tonj South	0.17	0.29	0.229	2
Lakes	Yirol East	0.55	0.51	0.534	4	NBG	Aweil North	0.21	0.24	0.225	2
Lakes	Awerial	0.52	0.51	0.515	4	Jonglei	Twic East	0.15	0.28	0.217	2
Unity	Guit	0.55	0.46	0.503	3	EEQ	Kapoeta South	0.21	0.22	0.217	2
Jonglei	Akobo	0.51	0.45	0.481	3	Lakes	Wulu	0.18	0.25	0.215	1
Unity	Leer	0.49	0.41	0.449	3	EEQ	Magwi	0.19	0.21	0.200	1
Upper Nile	Renk	0.43	0.46	0.442	3	Jonglei	Pochalla	0.16	0.22	0.190	1
Unity	Abiemnhom	0.47	0.41	0.441	3	WBG	Raga	0.14	0.23	0.186	1
Lakes	Rumbek Centre	0.38	0.48	0.428	3	EEQ	Torit	0.12	0.24	0.181	1
Upper Nile	Melut	0.36	0.48	0.420	3	EEQ	Budi	0.08	0.24	0.162	1

State	County OCHA	Index 2014	Index 2015	Mean	Level of risk	State	County OCHA	Index 2014	Index 2015	Mean	Level of risk
Lakes	Cueibet	0.43	0.39	0.413	3	CEQ	Yei	0.16	0.15	0.157	1
Jonglei	Bor South	0.37	0.45	0.412	3	WEQ	Mundri East	0.11	0.20	0.155	1
Upper Nile	Maiwut	0.39	0.43	0.409	3	WEQ	Nagero	0.07	0.17	0.121	1
Upper Nile	Maban	0.30	0.49	0.395	3	CEQ	Kajo-Keji	0.12	0.11	0.116	1
Upper Nile	Manyo	0.30	0.48	0.389	3	CEQ	Morobo	0.12	0.11	0.116	1
Jonglei	Pibor	0.35	0.41	0.382	3	WEQ	Yambio	0.10	0.13	0.114	1
Lakes	Yirol West	0.34	0.42	0.382	3	WEQ	Tambura	0.07	0.15	0.110	1
Warrap	Tonj North	0.20	0.53	0.364	3	WEQ	Maridi	0.10	0.10	0.103	1
Warrap	Gogrial West	0.25	0.47	0.360	3	CEQ	Lainya	0.08	0.09	0.087	1
CEQ	Juba	0.37	0.35	0.360	3	WEQ	Mvolo	0.07	0.09	0.080	1
Warrap	Gogrial East	0.21	0.50	0.357	3	WEQ	Mundri West	0.05	0.10	0.077	1
Warrap	Abyei Region	0.35	0.35	0.354	3	WEQ	Ezo	0.05	0.07	0.059	1
Upper Nile	Fashoda	0.26	0.41	0.333	3	WEQ	Ibba	0.05	0.07	0.059	1
						WEQ	Nzara	0.05	0.07	0.059	1

Source: OCHA, relative severity of needs index October 2014, April 2015 databases.

Annex 3: Tables and figures

Table A2. Population density by state, 2015

State	Area (Sq km)	Population	Inhabitants per km ²
Western Bahr el Ghazal	91 076	440 009	4.8
Western Equatoria	79 343	759 884	9.6
Jonglei*	122 581	1 753 272	14.3
Upper Nile*	77 283	1 281 365	16.6
Eastern Equatoria	73 472	1 274 685	17.3
Unity*	37 837	804 703	21.3
Lakes	43 595	963 541	22.1
Warrap	45 567	1 283 621	28.2
Northern Bahr el Ghazal	30 543	955 346	31.3
Central Equatoria	43 033	1 462 603	34.0
South Sudan	644 330	10 979 029	17.0

Source: NBS, 2010; 2015.

Table A3. Trend in revenues and expenditures, 2009–2014/2015 (SSP million, current)

	2009	2010	2011/2012	2012/2013	2013/2014	2014/2015
Revenues						
Oil revenue	4 121.5	5 630.3	9 882.9	374.0	10 039.0	6 792.7
Non-oil revenue	118.3	126.6	299.8	915.0	951.0	1 402.3
Grants from donors	–	–	–	–	0.1	89.5
Total revenues	4 239.8	5 756.8	10 182.7	1 289.0	10 990.1	8 284.5
Reserves and borrowing	–	–	–	5 681.0	5 647.0	–
Expenditures	4 234.7	5 576.1	10 141.5	6 812.5	9 072.1	11 819.4
Salaries	1 977.3	2 205.7	3 801.4	3 201.7	3 636.3	5 713.8
Operating	1 255.3	2 279.6	2 196.8	1 302.8	1 860.2	2 549.1
Capital	1 002.0	1 090.9	1 859.4	605.0	1 501.5	515.0
Transfers	–	–	1 911.5	1 658.1	1 703.1	2 559.9
Other	–	–	372.4	44.9	371.1	481.5
Balance	5.1	180.7	41.2	157.5	7 565.0	-3 534.9
Mandatory expenditure	0.0	166.7	347.3	–	8 294.6	2 126.3
Overall balance	5.1	14.0	-306.1	157.5	- 729.6	-5 661.2

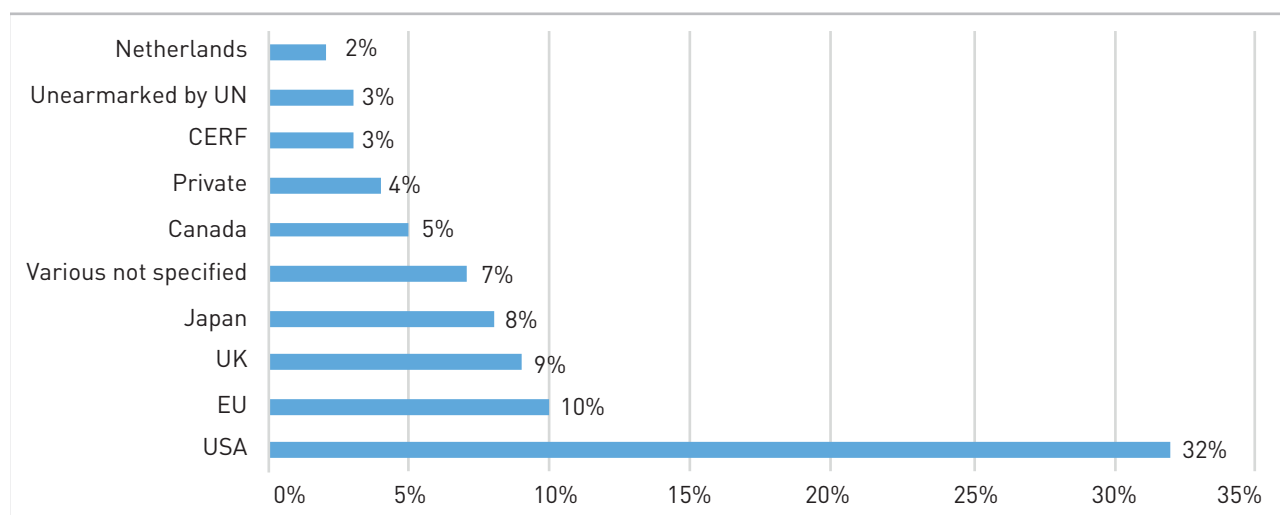
Source: MoFEP, 2011–2015; 2016a.

Table A4. Trend in revenues and expenditures, constant 2013/2014, 2009–2014/2015 (SSP million, constant prices 2013/2014)

	2009	2011/2012	2012/2013	2013/2014	2014/2015
Revenues					
Oil revenue	8 463.9	10 473.7	381.2	10 039.0	6 495.1
Non-oil revenue	243.0	317.7	932.7	951.0	1 340.9
Grants from donors	–	–	–	0.1	85.5
Total revenues	8 706.9	10 791.5	1 314.0	10 990.1	7 921.5
Reserves and borrowing	–	–	5 791.1	5 647.0	–
Expenditures	8 696.3	10 747.8	6 944.6	9 072.1	11 301.5
Salaries	4 060.7	4 028.7	3 263.8	3 636.3	5 463.5
Operating	2 577.8	2 328.1	1 328.1	1 860.2	2 437.4
Capital	2 057.8	1 970.5	616.7	1 501.5	492.4
Transfers	–	2 025.8	1 690.3	1 703.1	2 447.7
Other	–	394.7	45.7	371.1	460.4
Balance	10.6	43.7	160.5	7 565.0	-3 380.0
Mandatory expenditure	0.0	368.1	–	8 294.6	2 033.1
Overall balance	10.6	-324.4	160.5	-729.6	-5 413.1

Source: MoFEP, 2011–2015; 2016a.

Figure A1. Distribution of humanitarian funding, per donor, 2015



Source: OCHA, 2015d (as of 27 July 2015).

Table A5. EMIS country coverage in GUPN states, 2015

Jonglei		Unity		Upper Nile	
Akobo	Covered	Abiemnhom	Covered	Baliet	Unsafe
Ayod	Covered	Guit	Unsafe	Fashoda	Unsafe
Bor South	Covered	Koch	Unsafe	Longochuck	Unsafe
Canal	No time	Leer	Unsafe	Maban	Covered
Duk	Covered	Mayendit	Unsafe	Maiwut	No time
Fangak	Unsafe	Mayom	Covered	Malakal	Unsafe
Nyrol	Covered	Panyijiar	No time	Mayo	No time
Pibor	Covered	Pariang	Covered	Melut	Unsafe
Pochalla	Covered	Rubkona	Covered	Nasir	Unsafe
Twic East	Covered			Panyikang	Unsafe
Uror	No time			Renk	Covered
				Ulang	Unsafe

Source: MoEST, 2015d.

Table A6. Evolution of enrolment, by sector and ownership, 2008–2015

	2008	2009	2010	2011	2012	2013	2014	2015	Annual Growth Rate 2008–2015	Growth Rate		
										2008–2015	2008–2010	2011–2015
Pre-primary			47 266	55 905	75 010	77 313		110 824	18.6%*	134%*		38.3%
<i>Government</i>			23 985	16 871	24 751	27 775		31 104	5.3%*	30%*		64.6%
<i>Non-government</i>			23 281	39 034	50 259	49 538		79 720	27.9%*	242%*		26.9%
<i>% of non-government</i>			49%	70%	67%	64%		72%				
Primary	1 156 461	1 380 580	1 401 874	1 391 704	1 367 316	1 320 177		1 253 967	1.2%	8%	21%	-5.1%
<i>Government</i>	894 210	1 148 764	1 263 705	1 044 714	974 118	957 301		897 968	0.1%	0%	41%	-8.4%
<i>Non-government</i>	262 251	231 816	138 169	346 990	393 198	362 876		355 999	4.5%	36%	-47%	4.6%
<i>% of non-government</i>	23%	17%	10%	25%	29%	27%		28%				
Secondary (including Sec Tech)	25 144	44 027	33 678	44 084	56 932	46 898		66 252	14.8%	163%	34%	6.4%
<i>Government</i>	16 197	30 946	20 648	27 350	35 203	28 849		33 574	11.0%	107%	27%	5.5%
<i>Non-government</i>	8 947	13 081	13 030	16 734	21 729	18 049		32 678	20.3%	265%	46%	7.9%
<i>% of non-government</i>	36%	30%	39%	38%	38%	38%		49%				
TVET (centres)†	2 594	2 625	1 529					3 050	2.3%	18%	-41%	
<i>Government</i>								1 886				
<i>Non-government</i>								1 164				
<i>% of non-government</i>								38%				
Teacher training	1 259	2 445	766		4 039			594	-1.7%	-11%	-39%	
<i>Government</i>												
<i>Non-government</i>												
<i>% of non-government</i>												
AES	84 915	217 239	182 934	165 716	180 689	187 983		140 984	7.5%	66%	115%	13.4%
<i>Government</i>	60 385					130 192		95 027	6.7%	57%		
<i>Non-government</i>	24 530					57 791		45 957	9.4%	87%		
<i>% of non-government</i>	29%					31%*		33%				
Higher education		23 968						11 108	-12.0%**	-54%**		
<i>Public</i>		22 970			16 528			6 462	-19.1%**	-72%**		
<i>Private</i>		998						4 646	29.2%**	366%**		
<i>% of private</i>		4%						42%				

Sources: MoEST, 2008–2015 (higher education); MoHEST, 2012; MoHEST, 2015.

Note: No school census was conducted in 2014. * 2010–2015. ** 2009–2015. † Does not include secondary technical school students who are accounted for in secondary enrolment.

Table A7. Gross school coverage and parity index, by gender, with and without GUPN, 2009 and 2015

	2009				2015				GPI (F/M) evolution
	Male	Female	Total	GPI (F/M)	Male	Female	Total	GPI (F/M)	
National									
GER pre-primary	–	–	–	–	10.1%	9.3%	9.7%	0.92	–
GER primary (eight-year cycle)	84.8%	56.5%	71.6%	0.67	64.4%	47.8%	56.5%	0.74	0.08
GER primary (including ALP and CGS)	95.0%	65.1%	81.0%	0.68	70.8%	52.9%	62.3%	0.75	0.06
GER secondary (including Tech)	8.0%	3.5%	5.9%	0.43	8.4%	4.4%	6.5%	0.52	0.09
AES for 100 000 inhabitants	2 780	2 203	2 501	0.79	1 433	1 122	1 282	0.78	0.01
TVET as % of secondary education general	–	–	6.1%	–	4.2%	5.8%	4.7%	–	–
TVET for 100 000 inhabitants	–	–	44	–	52	32	43	0.62	–
wo GUPN									
GER primary (eight-year cycle)	78.0%	48.4%	63.9%	0.62	84.3%	59.8%	72.4%	0.71	0.09
GER primary (including ALP and CGS)	88.3%	55.3%	72.5%	0.63	92.1%	66.1%	79.4%	0.72	0.09
GER secondary (including Tech)	9.7%	4.1%	7.0%	0.42	12.1%	6.2%	9.3%	0.52	0.10

Sources: World Bank, 2012; MoEST, 2008–2015; NBS (2015) smoothed 2015 population. Authors' computations.

Table A8. Net school coverage indicators, with and without GUPN, 2015 (%)

	Primary		Secondary	
	NIR	NER	NIR	NER
Central Equatoria	15.3	46.9	2.0	7.3
Eastern Equatoria	12.0	30.1	0.1	1.4
Jonglei*	13.7	23.9	0.3	0.5
Lakes	13.8	43.0	0.8	1.4
Northern Bahr el Ghazal	22.6	52.9	0.4	1.3
Unity*	6.0	14.1	0.0	0.3
Upper Nile*	1.8	11.9	0.2	0.3
Warrap	19.7	47.2	0.7	1.7
Western Bahr el Ghazal	26.4	60.0	4.2	6.0
Western Equatoria	20.6	44.5	0.2	2.1
South Sudan	14.3	35.3	0.7	2.0
South Sudan without GUPN	17.7	45.1	1.0	2.9

Source: MoEST, 2008–2015; NBS (2015) smoothed 2015 population. Authors' computations.

Note: * Under-covered EMIS states.

Table A9. Simplified schooling profile, Gender Parity Index (F/M), by state, 2015

	Access P1		Retention P8		Completion P8		Transition Prim-Sec		Access S1		Retention S4		Completion S4	
	P1	F/M	P8	F/M	P8	F/M	Trans.	F/M	S1	F/M	S4	F/M	S4	F/M
Central Equatoria	85%	0.95	39%	0.85	33%	0.81	80%	0.84	26%	0.67	57%	0.89	15%	0.60
Eastern Equatoria	66%	0.78	22%	0.79	15%	0.61	54%	0.80	8%	0.49	42%	1.03	3%	0.50
Jonglei*	87%	0.65	2%	0.64	2%	0.41	109%	1.20	2%	0.50	29%	0.65	1%	0.32
Lakes	119%	0.54	14%	0.74	17%	0.40	44%	1.39	7%	0.55	15%	1.16	1%	0.64
North Bahr el Ghazal	173%	0.68	12%	0.66	21%	0.45	52%	0.67	11%	0.30	9%	0.41	1%	0.12
Unity*	47%	0.68	15%	0.93	7%	0.63	78%	0.65	6%	0.41	0%	-	0%	-
Upper Nile*	38%	0.99	5%	0.82	2%	0.81	96%	0.24	2%	0.20	0%	-	0%	-
Warrap	149%	0.57	11%	0.61	17%	0.35	64%	0.77	11%	0.27	8%	0.49	1%	0.13
Western Bahr el Ghazal	133%	0.71	31%	1.12	40%	0.80	62%	0.65	25%	0.52	8%	0.59	2%	0.31
Western Equatoria	98%	0.91	18%	0.68	18%	0.62	72%	0.77	13%	0.47	32%	1.32	4%	0.63
South Sudan	96%	0.70	14%	0.79	14%	0.55	69%	0.90	10%	0.50	31%	1.11	3%	0.55
South Sudan without GUPN	116%	0.69	17%	0.82	20%	0.57	67%	0.87	13%	0.49	34%	1.09	5%	0.54
Minimum	38%	0.54	2%	0.61	2%	0.35	44%	0.24	2%	0.20	0%	0.41	0%	0.12
Maximum	173%	0.99	39%	1.12	40%	0.81	109%	1.39	26%	0.67	57%	1.32	15%	0.64
Gap	135%	0.45	37%	0.51	38%	0.46	66%	1.15	24%	0.48	57%	0.91	15%	0.52

Source: MoEST, 2008–2015; NBS (2015) smoothed state population for 2015. Authors' computations.

Note: *Under-covered EMIS states.

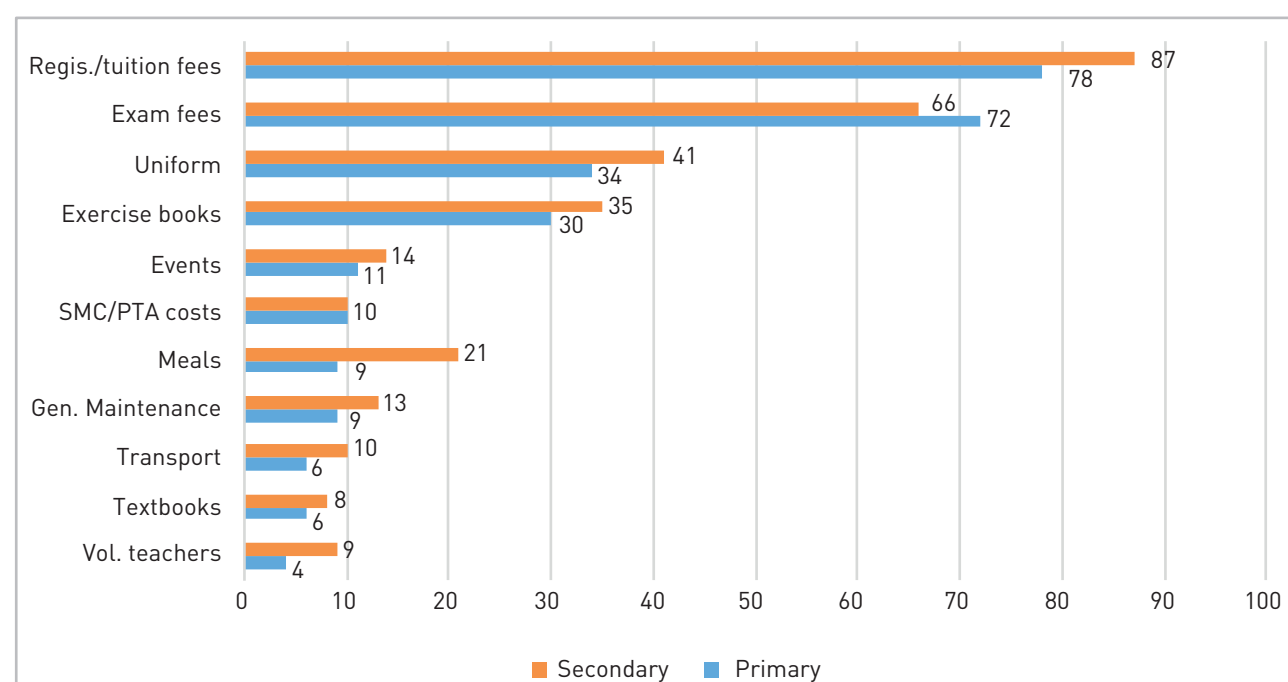
Table A10. Share of repeaters, by sector and state, 2015 (%)

	Primary	Secondary	AES
Central Equatoria	11.0	2.9	5.4
Eastern Equatoria	13.1	5.1	7.8
Jonglei*	4.5	4.8	6.4
Lakes	7.4	3.7	6.6
Northern Bahr el Ghazal	8.9	4.5	8.5
Unity*	9.0	1.2	3.8
Upper Nile*	6.4	1.6	3.4
Warrap	7.1	5.1	6.5
Western Bahr el Ghazal	8.7	3.9	7.5
Western Equatoria	11.6	6.0	9.1
South Sudan	8.8	3.8	6.9
South Sudan without GUPN	9.4	4.0	7.4
Minimum	4.5	1.2	3.4
Maximum	13.1	6.0	9.1
Gap	9	5	6

Source: MoEST, 2008–2015. Authors' computations.

* Under-covered EMIS states.

Figure A2. Expenses that schools expect students to cover, by item and sector, June 2014 (%)



Source: GESS, 2014a.

Table A11a. Trend of public general education and instruction expenditure, by type and management level, 2009–2013/2014 (current SSP)

	2009	2011/2012	2012/2013	2013/2014
Recurrent expenditures	227 626 678	270 068 825	272 638 539	268 434 034
<i>Wages and salaries</i>	179 650 598	239 734 311	254 613 696	213 243 074
National	179 650 598	22 435 803	15 442 785	23 777 050
Transfers to states/universities	0	217 298 508	239 170 911	189 466 024
<i>Operation</i>	47 976 080	30 334 514	18 024 843	55 190 960
National	47 976 080	28 552 102	15 175 622	26 971 850
Transfers to states/universities	0	1 782 412	2 849 221	28 219 110
Capital expenditures	6 162 295	14 006 354	10 713 709	14 495 210
National	6 162 295	14 006 354	10 713 709	14 495 210
Transfers to states/universities	0	0	0	0
Grand total	233 788 973	284 075 179	283 352 248	282 929 244

Source: MoFEP, 2011–2015. Authors' computations.

Note: Relies on general education expenditures only and does not account for state expenditures using their own revenues or block grants.

Table A11b. Trend distribution of public general education and instruction expenditure, by type and management level, 2009–2013/2014 (%)

	2009	2011/2012	2012/2013	2013/2014
Recurrent expenditures	97.4	95.1	96.2	94.9
<i>Wages and salaries</i>	76.8	84.4	89.9	75.4
National	76.8	7.9	5.5	8.4
Transfers to states/universities	0.0	76.5	84.4	67.0
<i>Operation</i>	20.5	10.7	6.4	19.5
National	20.5	10.1	5.4	9.5
Transfers to states/universities	0.0	0.6	1.0	10.0
Capital expenditures	2.6	4.9	3.8	5.1
National	2.6	4.9	3.8	5.1
Transfers to states/universities	0.0	0.0	0.0	0.0
Grand total	100	100	100	100

Source: Derived from *Table A11a*. Authors' computations.

Note: *2013/2014 data include education expenditures from states block grants estimated at SSP38.9 million.

Table A12a. Trend of public higher education expenditure, by type and management level, 2009–2013/2014 (current SSP)

	2009	2011/2012	2012/2013	2013/2014
Recurrent expenditures	300 000	163 457 988	83 427 545	112 041 268
<i>Wages and salaries</i>	0	97 050 864	60903647	90 009 321
National	0	97 050 864	1 828 897	1 901 000
Transfers to states/universities	0	0	59 074 750	88 108 321
<i>Operation</i>	300 000	66 407 124	22 523 898	22 031 947
National	300 000	66 407 124	3 907 123	14 305 211
Transfers to states/universities	0	0	18 616 775	7 726 736
Capital expenditures	0	934 776	0	1 148 000
National	0	934 776	0	1 148 000
Transfers to states/universities	0	0	0	0
Grand total	300 000	164 392 764	83 427 545	113 189 268

Source: MoFEP, 2011–2015. Authors' computations.

Table A12b. Trend distribution of public higher education expenditure, by type and management level, 2009–2013/2014 (%)

	2009	2011/2012	2012/2013	2013/2014
Recurrent expenditures	100.0	99.4	100.0	99.0
<i>Wages and salaries</i>	0.0	59.0	73.0	79.5
National	0.0	59.0	2.2	16.1
Transfers to states/universities	0.0	0.0	70.8	63.5
<i>Operation</i>	100.0	40.4	27.0	19.5
National	100.0	40.4	4.7	12.6
Transfers to states/universities	0.0	0.0	22.3	6.8
Capital expenditures	0.0	0.6	0.0	1.0
National	0.0	0.6	0.0	1.0
Transfers to states/universities	0.0	0.0	0.0	0.0
Grand total	100	100	100	100

Source: Derived from *Table A12a*. Authors' computations.

Table A13. General education wage bill distribution, by workplace and level, 2013/2014 (%)

Workplace	Teaching	Non-teaching	Total	Share in total by workplace and level
School-based				
Pre-primary	78.2	21.7	100	0.3
Primary	91.4	8.6	100	54.8
AES	98.0	2.0	100	3.6
Secondary	82.2	17.8	100	12.2
TTIs	58.6	41.4	100	1.6
TVET	60.9	39.1	100	0.3
Total	89.3	10.7	100	72.7
Central and decentralized levels				
Central MoEST		100.0		2.7
State MoEST		100.0		10.1
County		100.0		11.2
<i>Payam</i>		100.0		3.3
Total		100.0		27.3
Share in total by occupation	64.9	7.8	27.3	100

Source: Derived from Table 3.6. Authors' computations.

Table A14. Public recurrent education expenditure, by function and level, 2013/2014 (SSP thousand)

	Pre-primary	Primary	AES	Secondary	TTIs	TVET	HE	Total
School level	732	153 908	9 116	31 681	4 036	836	95 835	296 143
Teacher salary	573	129 688	8 941	26 044	2 367	509	41 468	209 590
Non-teaching staff salary	159	12 143	175	5 637	1 669	327	46 640	66 750
School operational costs	-	12 077	-	-	-	-	7 727	19 804
Sector administration salary	269	60 900	4 198	5 198	98	102	1 901	72 666
MoEST	24	5 381	371	1 081	98	21	1 901	8 877
S MoEST	91	20 501	1 413	4 117	-	80	-	26 203
County/ <i>payam</i>	155	35 018	2 414	-	-	-	-	37 587
Sector administration operational costs	157	35 435	2 443	4 610	380	90	14 305	57 419
MoEST	92	20 806	1 434	4 178	380	82	14 305	41 277
S MoEST	9	2 148	148	431	-	8	-	2 746
County/ <i>payam</i>	55	12 480	860	-	-	-	-	13 396
Total	1 158	250 243	15 757	41 488	4 514	1 028	112 041	426 228

Source: MoFEP, 2011–2015; MoLPS, 2013–2014. Authors' computations

