South Sudan

Education Sector Analysis

2023

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Foreword

'Learning starts with failure; the first failure is the beginning of education.'–John Hersey.

This quote always reminds me of how we endeavour to transform our education system through learning. It also reminds me that even as we seek to meet our national aspirations, we must adapt to our circumstances, both domestic and global. The desire to learn about our present circumstances and performances, whether good or bad, compelled us to conduct a diagnosis on our education system. This analysis is more of a self-introspection, which highlights the gains we have made as a country and points out where we have underperformed, together with associated reasons for our unsatisfactory performance. Indeed, understanding our failures is the beginning of developing a sustainable education system that the nation aspires for.

The sector, with the technical support of IIEP-UNESCO Dakar, embarked on an exercise of reviewing the sector-wide performances based on the 2017–2022 General Education Sector Plan. The 2017–2022 GESP was developed against a backdrop of political instability and a struggling economy but with a glimmer of hope emanating from the concluded peace agreement. The agreement triggered immense expectations from the general population and a deep yearning for immediate peace dividends. Hence, the Ministry decided to sub-divide the plan into two sub-sections. First, planning for safety, resilience, and social cohesion for the first two years. Second, the education policy implementation for the remaining period, which is three years.

The conclusion of the peace agreement helped to end the conflict, though at a slow pace. However, the catastrophic events were not averted because of the COVID-19 pandemic and climatic degradation from floods followed. This indeed was a huge setback not only for the sector plan implementation but also for the public that was justifiably expectant and eager to realise the dividends of peace that are manifested in developmental activities. This Education Sector Analysis has been conducted against this backdrop, assessing the gains that the government has made during the considered period, but also highlighting the challenges that the government faced during the same period, not just because of the aforementioned factors, but also due to other random factors.

Although these analytic findings aim to support the development of the Education Sector Plan 2023–27, which will guide the implementation of programs in the next five years, it is important to note that these findings are still useful for immediate interventions, and I encourage all actors in the sector to use them. Where the analysis has found strengths, it is our responsibility to build on the strengths; where the analysis has found us weak and culpable of the attendant failures, it is still our responsibility to rise beyond the shortfalls to improve the future of our children and the next generations.

Hon. Madam Awut Deng, MP

Minister of General Education and Instruction

Acknowledgement

This is South Sudan's third Education Sector Analysis (ESA) since independence, and it gives me immense pleasure to note that the participation of the government has tremendously improved over the series. The aim of conducting the analysis is to inform the sector of its status regarding sector performance standards. This analysis will assist the government, development partners, and all education stakeholders to identify areas of intervention as we work towards the improvement of the education sector.

It is important to note that when the GESP 2017–2022 expired, the Ministry could not develop a subsequent plan without embarking on this ESA. I, therefore, appreciate all the efforts that have been put into finalizing this ESA report, which now ushers us into the development of the five-year General Education Sector Plan (GESP) 2023–2027.

I would like to acknowledge the national technical team that represented the government in this process, led by George Mogga, Director General for Planning and Budgeting, and included Charles Michael Machiek, Victor Dut Chol, Giir Mabior, Simon Deng, Anjelina Marinao, Mary Idow, Makur Laht, Hussein Mohamed Abdalla, Angelo Loye, Nelson Odur, James Odick, Kur Ayai, Sarafina Tisa, Lobia Hanan, Oliver Martin Amandu, Daniel Bullen, Charles Sokiri, majuc Madul, William Wudu, Mading Manyok, Bartholomeo Morbe, Taban Kozo, Joseph Odhiambo Isaac Moi, Peter Amba Bullen, Charles Oriem Wani, Lube Hanan Jabir, and Ajak Achuli.

The technical team members worked under the technical guidance of the IIEP-UNESCO team led by Polycarp Otieno, Education Policy Analyst, and comprising Diana Ortiz-Parra, Education Programme Specialist, Nicola Tissi, TVET Expert, Shannon Lindsey, Education Policy Analyst, Yanelkis Fernandes-Molina, Education Policy Analyst, and Thomas Poirier, Senior Education Policy Analyst, all under the overall guidance of Mr Koffi Segniagbeto, head of IIEP-UNESCO Dakar.

Special thanks to the UNESCO Juba team led by Mr. Julius Banda, UNESCO Juba Head of Office and Country Representative, Dr. Tap Raj Pant, UNESCO Juba, Head of Education Unit, Saluwen Yoasa Wurbe Sanya, Wudu John Godi and Jojon Jackeline Sunday for the tireless efforts in ensuring a success process.

I also wish to acknowledge the contribution of education representatives from the 10 states and three administrative areas as well as representatives from other government MDAs including the Ministry of Higher Education Science and Technology, Ministry of Finance and Planning, Ministry of Public Service, Ministry of Gender and Social Services, Ministry of Youth and Sports, Ministry of Labour, Ministry of Water and Irrigation, among other specialized agencies of government.

Sincere gratitude goes to representatives from development partner organizations, including ADRA, GPE, FCDO, Finn Church Aid, Food for Hunger, NRC, Save the Children International, Strome Foundation, UNESCO, UNHCR, UNICEF, USAID, Windle Trust, World Bank, among others, for their technical and financial contribution to the delivery of this ESA.

Finally, I wish to extend my appreciation to everyone within and outside the government who was not part of the technical team but contributed in a meaningful way towards the finalization of this report.

Hon. Dr. Kuyok Abol Kuyok

Undersecretary, Ministry of General Education, and Instruction

Executive Summary

South Sudan, being a signatory to the Education 2030 Agenda, remains committed to the delivery of quality and inclusive education and lifelong opportunities to all. The country has made notable progress in education, but as shared in this report, a lot still needs to be done to ensure that South Sudanese people can live and enjoy the fundamental right to education.

A growing resilient population determined against all socio-economic challenges

The population of South Sudan has more than doubled since 2009, adding almost six million inhabitants during the period and creating immense pressure on the delivery of services. In addition, the country is characterized by a high demographic dependency ratio of over 100%, indicating a larger proportion of the population under the age of 15 and over the age of 65, than those in the active age group. The country faces additional pressure from external migration, internal displacement, and the return of previously displaced populations, with an estimated 600,000 refugees having returned to the country since 2018, while 18% of the population was estimated to be internally displaced in 2022. This is a particular concern for the education system as it necessitates system expansion as well as specialized programming to support those returning from abroad and facing internal displacement.

Although national conflict officially ended in 2018 with the signing of the Revitalised Agreement on the Resolution of Conflict in South Sudan (R-ARCSS), a new face of conflict continues to undermine access to essential services, including education. At its signing in 2018, the R-ARCSS promised democratic elections and the implementation of a permanent ceasefire and since then, South Sudan has formed a revitalized transitional government of national unity and has returned to the 10-state model which was introduced at independence in 2011. While the R-ACASS has ended the national conflict, political unrest, and inter-communal and localized conflict, particularly between non-signatories to the 2018 peace deal, continue to fuel violence at the sub-national level. Furthermore, the decentralized system that was erected as a measure of pacification of warring parties is limited in its functionality due to capacity constraints at decentralized administrations.

Poverty is widespread in South Sudan and more pronounced in rural areas, with many households having limited access to basic minimum living and sanitation conditions. In 2017, 82% of the South Sudanese population lived on less than USD 1.90 PPP/day, with the incidence observed to be higher in rural areas, where most of the population is concentrated. Access to household infrastructure is similarly limited with only 20% of households nationally having access to an improved sanitation facility, with this dropping to 12% in rural areas. Poor water and sanitation alongside low immunization rates contribute to the high rates of both infant and under-five mortality in the country, with one in 10 children dying before the age of five, factors which adversely affect human development.

The economy has shown positive signs of recovery from the COVID-19 pandemic, with the real GDP estimated to have grown at 8% in 2021 and is expected to have expanded even faster in 2022. However, hyperinflation over the years

and associated currency devaluation have undermined growth. The rebounding economy is good news for education, which up to now has received much lower attention from the government compared to the commitments made in the Education 2030 Agenda. In 2021, consolidated education sector spending accounted for 5.2% of government expenditure, which was lower than the recommended 20%. The rebounding economy and prospects of increased government spending are seen in the fact that 90% of oil and gas reserves are yet to be explored, with production set to return to pre-civil war levels. Moreover, the reparations to Sudan are ending, with education waiting in line to benefit from the instalments that have been paid to Sudan until now.

Climate change will define the landscape of South Sudan in years to come.

South Sudan is frequently affected by floods, drought, and conflict, and the situation is expected to worsen with climate change, phenomena which have the potential to affect learning. The country's dependence on rain-fed agriculture, coupled with high levels of poverty and food insecurity, as well as a lack of effective policies and strategies to address climate adaptation needs, makes it vulnerable to climate-related environmental changes. In particular, the country is expected to experience: (i) increased temperatures, (ii) increased incidences of drought, (iii) increased unpredictability of seasonal rains, as well as (iv) increased intensity of rainfall events (USAID, 2016, 2019), and heavy flooding. Conflicts could also be exacerbated by the competition for scarce resources. Most schools in the country are in areas prone to conflict, drought, and floods. In some cases, schools must close for days or even months. Other direct impacts of these events are associated with injuries, deaths, fear, trauma, and psychological stress. In addition, some schools continue to be used for military purposes or as temporary shelters, negatively impacting children's learning. Extreme weather events and conflict have also affected children's education in South Sudan indirectly through impacts associated with food insecurity, forced migration, child labour, child marriage, and recruitment into armed groups or gangs, among others.

Disaster risk management efforts in South Sudan are focused on disaster response and early recovery, with the lack of awareness of climate change and DRR seen to be increasing the education system's vulnerability to climate change. The Education Cluster in the country is responsible for ensuring that education partners respond to emergencies and meet the needs of the affected population (EC, 2019). However, as South Sudan has experienced more extreme weather events in recent years, the needs are overwhelming the humanitarian response capacity. These needs are expected to increase if long-term responses that address the root causes of the education system's vulnerability to climate change are not implemented. In terms of data, much of the information available in South Sudan focuses on response and recovery and less on prevention, preparedness, and mitigation, thus increasing the barriers to implementing effective crisis-sensitive educational planning. Although education has the power to encourage necessary changes in attitudes, practices, and behaviours at institutional, community, and individual levels to develop values and enable actions to transition society

towards a sustainable future, climate change education is only included in the primary school curriculum and there is a lack of training (in-service and pre-service training) and teaching materials on DRR and climate change issues.

Lack of inter-ministerial coordination is also increasing the barriers to implementing effective DRR and climate change adaptation strategies. Climate change is a complex phenomenon, which can affect several sectors at the same time. To provide timely, flexible, and effective solutions that contribute to strengthening the resilience of the education system, it is essential to implement a holistic and cross-sectoral planning approach. However, there seems to be a lack of coordination between MoGEI and the Ministry of Environment and Forestry, as well as the Ministry of Humanitarian Affairs and Disaster Management. The former is the main agency responsible for addressing the challenges of climate change in the medium and long term. Although early warning systems are in place to identify a hazard three months in advance and regular meetings are also held to address the impacts of these identified hazards, MoGEI is not part of these discussions, among other things, because there is no focal person or unit within MoGEI responsible for DRR and climate change.

Despite signs of positive traction, general education continues to exclude a huge host of learners.

Nearly all pre-school-aged children and 60% of the primary and secondary school-aged children are not in school. In 2021, 1.3 million children of pre-primary school age were not in school, translating to 94% of eligible children not attending ECD programmes. In addition, 2.6 million children and adolescents aged six to 17 were not in either primary or secondary schools, more of them being girls, calling for a differentiated response for boys and girls when tackling this phenomenon. More than half (53%) of the OOSC were estimated to be in Jonglei, Eastern Equatoria, and Upper Nile alone. These states also had the highest proportion of OOSC within their school-age population, while the lowest shares are in Western and Northern Bahr el Ghazal. Orphaned children had the largest shares of OOSC, followed by girls facing child and early marriages. Additionally, children in pastoralist communities also face challenges to access educational opportunities in both the formal and non-formal education systems in the country because of the nature of their lives (UNESCO and FAO, 2015). According to MoGEI, 56% of children in pastoralist communities or nomadic families were out of school in 2020, raising the need for specific actions to access this part of the population and an expansion of the different ongoing interventions, such as the Pastoralist Education Programme (PEP) of the AES.

The general education system's capacity to enrol students in pre-primary and secondary education is very low, especially in states affected by conflict or natural disasters. The number of formal education schools has increased since 2015, driven by the construction of schools by non-governmental actors. However, the system's capacity remains very low. In 2021, there were around 1,400 school-aged children per school in pre-primary and 2,570 per secondary school, with major differences observed across states. Upper Nile, Jonglei, and Unity

have the largest number of school-aged populations per school, reaching around 18,200 eligible children in a pre-primary centres in Jonglei, 860 per primary school in Unity, and over 11,000 and 5,200 per secondary school in Jonglei and Upper Nile, respectively.

Despite the growth in the number of schools and enrolment levels, the system has not been able to progress in enrolment rates. The Gross Enrolment Ratio (GER) in pre-primary and secondary represent 11% of the eligible population for these levels, while students in primary represent 59% of its eligible population. Despite the increase in the supply of schools, the GERs in pre-primary and primary education have barely increased in six years. Furthermore, there are major differences in the GERs by state, mainly associated with the impacts of conflict and natural disasters: Jonglei and Northern Bahr el Ghazal have the lowest enrolments in pre-primary, with only 1.6% and 2.6%, respectively. In primary, Eastern Equatoria's GER is only 26%, while in secondary, Jonglei, Unity and Upper Nile presented the lowest rates at 3%, for the first two, and 5% for the latter. There are also differences in the enrolment rates of males and females, except for pre-primary education. The GER for girls in primary education is 57%, 7% lower than for boys. In the case of secondary education, the difference is more acute: the GER for males is 13% while for females is 10%. These gaps increase dramatically in Jonglei, Lakes, Unity, Upper Nile, and Warrap, where girls are observed to be in the worst situation.

Alternative Education System's (AES) enrolment almost halved since 2015, decreasing the instruction opportunities to the most disadvantaged populations. The number of AES centres in 2021 is one-third of the number in 2015, going from 1,156 centres to 397 (not including Greater Upper Nile states and AAs) representing a major challenge to enrol learners in non-formal education. Consequently, enrolment in AES programmes is 40% less than in 2015. During this period, some states had gains in terms of enrolment, while others experienced losses. Eastern Equatoria and Warrap depicted growth in their enrolments (17% and 14%, respectively), while states like Lakes and Western Bahr el Ghazal depicted losses of 72% and 49% from 2015 to 2021.

Insufficient access and large numbers of dropouts characterize the education system. Universal access to primary education remains a challenge for South Sudan, with access to Primary 1 reaching 85% in 2021. At the end of primary, the overall retention is only 22%, which is a huge obstacle in the quest to attain universal primary education. This situation reflects the large number of dropouts in the country, mainly caused by the inability to pay fees, distance to school, marriage, and pregnancy, (specifically among girls). From the last grade of primary to the first of secondary, the transition rate is around 85%, indicating that most of the students that manage to finish primary, access secondary. In terms of gender gaps, the intake rate for girls is 79%, 12 percentage points less than the rate for boys. These disparities continue to Primary Five, where females' access becomes two percentage points higher than that of males. Primary and secondary completion rates are similar between the two groups. However, the gap increases at the end of secondary education, in favour of males.

Public expenditure on education remains low accountability concerns

Total education expenditure in South Sudan represented less than one percentage point of GDP in 2021 and has dropped in real terms over the years. In 2021, the government spent SSP 38 billion on education, translating to 0.9% of the GDP, making South Sudan the second lowest spender on education among neighbouring countries and those similarly affected by conflict. Furthermore, only 35% of all education expenditure in 2021 was spent on general education, with higher education receiving 62%. The low levels of expenditure in education are partially attributed to low budget execution, with MoGEI execution remaining below 50% in the past four financial years. Expenditure on general education in 2022 in constant prices (2015) was lower than in 2015, a fact that can be attributed to hyperinflation as well as lack of prioritization of education allocation and particularly expenditure. Development expenditure has been absent, with no new government-funded schools having been built since independence in 2011. In 2021, 75% of MoGEI expenditure was concentrated on wages and salaries, while operating transfers and feeding allowances dominated non-salary expenditure.

Three transfers financially support states and counties to support the delivery of education, but these transfers have been rocked by accountability concerns that have the potential of demoralizing staff at the sub-national levels, especially teachers. Counties receive the largest proportion of financing at 75% because they are responsible for paying the salaries of primary and pre-primary teachers. 90% of all transfers in 2021 were allocated to salaries, with no transfers to service delivery units (capitation grants) observed since they were stopped during school closures in 2020. This indicates that schools are severely financially constricted to make any meaningful improvements such as infrastructure renovations or the purchasing of learning materials. Efforts have been made to improve the transparency of transfers. A major step towards improved accountability was made in the redirection of funds to state ministries of education beginning in 2021. However, the public expenditure tracking survey noted that challenges persist due to a lack of financial infrastructure at decentralized levels meaning that teachers often receive salaries late and not in full.

Salaries for education staff, including teachers, have decreased in constant prices and ranged between 0.4-1.2 times GDP/capita in 2021. Despite recent efforts by the government to increase salaries, improvements have not been able to make up for years of hyperinflation rendering teachers' salaries lower than the cost of living as estimated by the multi-sectoral minimum expenditure basket. This has served to disincentivize the teaching profession and the education sector altogether.

Much of the expenditure in general education is towards primary education, with pre-primary and secondary tying from a distance, with the low-average per-student spending stretching households to chip in to educate their children. The 2021 public spending on education revealed that 84% was on primary education, followed by 3% in pre-primary, and 7% in secondary. This distribution is similar to the shares observed in

2013/2014, with pre-primary seeing the biggest increase in proportional spending. The per-student unit cost for primary was 3% of per capita GDP, significantly lower than comparable countries in the region. Secondary unit cost was estimated at 6% of per capita GDP, representing a large decrease from the 39% calculated in 2013/14. This underlines the key finding that the education system in South Sudan is severely underfunded, which poses a major challenge in improving both access and quality. Consequently, households have had to come in to support learning in general education. Households are estimated to spend 20% of GDP per capita per student enrolled in primary and 36% per student in secondary. This arises because of the low levels of funding commitments from the government, which compels households to contribute to school fees, supplies, and examination costs. Development partners similarly stepped in to fill the financing gaps, with the GESS programme alone representing 20% of total MoGEI expenditure in 2021.

Quality education remains elusive amid a short supply of teaching and learning resources.

The quality of education in South Sudan is guided by the General Education Law, periodic education sector plans, the competence-based curriculum framework, and a host of operational tools, all of which aim at the restoration of peace in the country through education. The government remains committed to ensuring that the fulfilment of the fundamental right to education for the people of South Sudan remains supreme. The curriculum framework also responds to the independence vision of influencing socio-economic development in the country and puts the identity of the citizens at its core, with the hope that the curriculum can foster 'peace and prosperity, growth and development, harmony and justice through an education firmly rooted in the rich culture and heritage, which can develop the children and youth into true citizens of the world'.

Despite the positive intentions to drive quality education in the country, the first challenge is the limited capacity of the sector to train teachers. The capacity of teacher training institutes remains inadequate to address the need for teachers in general education, with only three operational public teacher training institutes, and most of the states and administrative areas not having any. The operational TTIs enrolled around 1,160 teachers and teacher trainees, the majority of whom were enrolled on in-service programmes – good for refresher training, but not adequate for the teacher shortage rife in the country. Moreover, teacher trainees go through a host of challenges before they can qualify for teaching, and these include the limited government input in financing teacher training, a widespread dropout from pre-service training observed due to insecurity, and long distances to TTIs.

There is an acute shortage of qualified teachers in general education, which is considered to affect the quality of instruction in classrooms. Against national teaching practice entry requirements, more than 80% of teachers in pre-primary, 70% in primary, less than half of teachers in secondary, and nearly 75% in alternative education meet the requirements. Moreover, only 11% of teachers in ECE, 8% in primary, and 10% in the AES have short-cycle tertiary education training. Apart from a lack of

qualified teachers, the general education system suffers an acute shortage of teachers, which is evident from the high Pupil Teacher Ratios (PTR), averaging 90:1 in ECE, 93:1 in primary, 25:1 in secondary and 69:1 in AES. The system has had to turn to volunteer teachers to address this challenge, and up to one-third of teachers in general education are volunteers. There is also a shortage of inspectors, which means that the largely unqualified teachers can hardly get external support to improve their teaching.

Apart from the shortage of teachers, there is also a short supply of learning materials, which compounds the learning challenges in general education while learning in general education takes place in crowded classrooms. According to the 2021 ASC, the pupil-textbook ratio in primary is 8:1 in English and Mathematics, and 9:1 in Science and Social Studies, which are both significantly above the 1:1 standard recommended by the policy. In secondary, there are better student-textbook ratios (STR) compared to primary schools. There are 80 learners per teacher in public pre-primary schools; 126 in public primary; 45 in public secondary; and 55 in public AES, which makes classrooms difficult to manage and compromises instruction. In addition, one-third of schools do not have access to water, and only a handful of schools have access to a source of energy (electricity).

These reasons combined conspire to make a child born in South Sudan today only 31 % productive in adulthood, according to the Human Capital Index, whose three base indicators are drawn from education. Out of a possible 12 years of education, the average schooling years in the country is under five years, which is reduced to less than three years when considering the amount of learning taking place during this period. Factors affecting learning, including the level of preparedness of learners: availability and appropriateness of school inputs; the qualification and motivation of teachers; and the organization of school resources, are all weak, hence the low human capital index.

Although TVET remains underdeveloped, the policy level changes in the recent past offer a glimpse of positive tidings that TVET holds for the adolescents and youth of South Sudan.

The protracted conflict in South Sudan has inhibited the development of a well-functioning TVET system, with the responsibilities of TVET being spread across the government. Delivery of TVET currently follows a four-mode approach, which is formal, non-formal, informal, and the recently established mobile TVET for pastoral communities. Apart from mobile TVET, the modes are similar to the TVET offered in other countries with similar socio-economic conditions in sub-Saharan Africa, for example, Central African Republic, Liberia, and Mozambique. This reflects both the informal nature of the labour markets and the inability of the existing formal skills development offer to fully meet the ever-growing demand for skills training. In terms of management, TVET is fragmented across government departments. Over thirty ministries offer skills development and TVET-related opportunities in their domains of focus. That, coupled with the lack of an overarching regulatory and legislative framework and the absence of a dedicated governing body, has led to a disjointed TVET offer across states in South Sudan.

Thanks to the high fragmentation, no department makes a substantive financial commitment to the delivery of TVET.

High fragmentation of TVET supply bears major implications in terms of curriculum development in addition to outdated pedagogy and disjointed certification systems. TVET Curricula vary across TVET/VT/skills development centres with little standardization. And at the delivery stage, instructors can only apply outdated training methods, which renders TVET incapable of connecting with the world of work through work-based learning schemes and other employment-enabling activities such as orientation and placement services at the school level. Apprenticeships happen mainly on an informal basis, without any connection to the formal education and training system. These elements have a negative impact on the quality and relevance of TVET training, making TVET less appealing for job seekers, and fueling the general poor public perception of TVET.

South Sudan's economy and labour market have been highly affected by conflict and instability over the last decade. Unemployment is low given that workers cannot afford idle periods. The combined impact of war, natural disasters, and the COVID-19 pandemic has disrupted labour markets, increasing vulnerability and hardship in the country. The labour force participation rate is at 74% for males and 70% for females, and the youth seem to be lagging, with rates of 56% and 61% for males and females, respectively. Overall unemployment stood at 14% in 2021 (13% for males and 15% for females). Unemployment and labour force participation rate are, however, non-exhaustive labour market indicators. Given the lack of social safety nets, workers cannot afford long periods of unemployment, settling for any job that can offer them livelihoods in the short term, which conceals a broader issue of the quality of employment.

The labour market is characterized by a high concentration of workforce in agriculture, with limited economic diversification in a dysfunctional labour market, but there are opportunities. Agriculture accounted for 60% of the labour market in 2019, mainly in subsistence farming and livestock, with more women in the workforce (73%) working in agriculture compared to men (48%). This highlights the gender-based exposure to vulnerable employment since agricultural activities are typically informal, low-productive, and subsistence-based. Some analyses consider that there is no national labour market as such, given that 'the country does not have a national economy – rather, the economy appears to be composed of multiple small local markets that operate in isolation'. Given the demographic structure of the country characterized by a youth bulge and an expanding working-age population, South Sudan has the opportunity to seize the 'demographic dividend', should fertility rates continue their downward path.

It should be noted that education in South Sudan has made notable progress. However, it should also be emphasized that most of the progress made is at the foundational stages of education system development. More efforts need to be put into the ongoing system development, not just by the government but also by development partners and other non-governmental actors to ensure the right of citizens to education is fulfilled.

Chapter 1
Country context

This chapter outlines the sociodemographic, humanitarian, macroeconomic, and political contexts in which the South Sudanese education system functions, and it is divided into three sections. The first section discusses the general background which considers the humanitarian and political context, including the recent signing of the peace deal in 2018, as well as the country's decentralized governance system. The second discusses the sociodemographic context, which presents the total population in South Sudan and associated household characteristics. The third section introduces the macroeconomic context, including the evolution of GDP (Gross Domestic Product), revenue, and government expenditure towards the provision of public services. It does so to frame the ensuing discussions regarding educational access and quality as the system itself cannot be separated from the external factors which have a profound impact on it.

1.1 General background

The Republic of South Sudan (RSS) is a landlocked country located in north-east Africa with a total surface area of 664,000 km. The country is divided into 10 states and three administrative areas as the first sub-national level and 80 counties being the second layer. Counties are further divided into payams and bomas, with the latter being the smallest administrative unit in the country (BTI, 2022). The governance structure of South Sudan has undergone many changes in recent years, including an increase in the number of states from 10 to 32 in 2016, with the reconsideration of state boundaries as a key element of the 2018 peace deal (IGAD, 2018). The issue was a major stumbling block to the implementation of the peace deal (discussed further below), following claims of ethnic gerrymandering by the opposition, before President Kirr made a surprise announcement in 2020 that the country would return to a ten-state plus three administrative area model (UNMISS, 2020). Administrative areas are semi-autonomous and provide localized ethnic groups with administrative independence while simultaneously maintaining national stability and cohesion (UNMISS, 2020). Most territorial disputes and debates over internal boundaries arise because of the vast diversity of South Sudan, which is home to 64 main ethno-lingual groups, of which the most populous are the Dinka, Nuer, Zande, and Bari.

Figure 1.1: Map of South Sudan

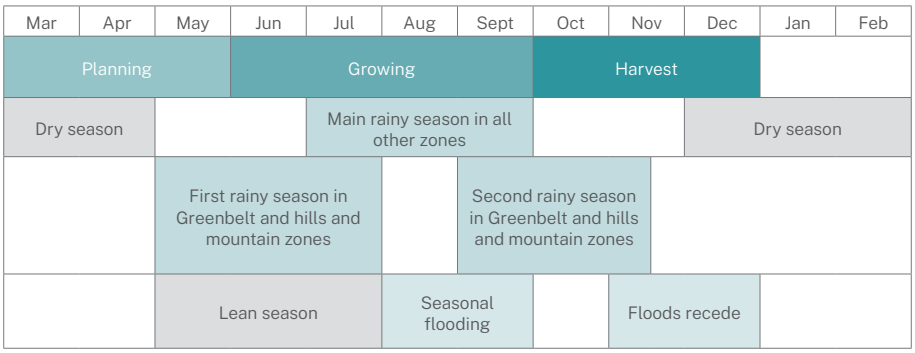
Source: United Nations Geospatial Information Section, 2022

1.1.1 Geography and climate: Diversity and vulnerability

South Sudan is endowed with a diverse ecology, which includes grasslands, wetlands, and rainforests, with its climate characterized by a wet and dry season. The diversity across the country means that the growing season ranges from 280–300 days per year in the south-west of the country, which is also known as the Greenbelt, while the growing season in the northern areas ranges from 130–150 days per year (FAO, 2021). This variance is a result of different rainfall patterns, with bi-modal patterns seen in the southern areas allowing for two or three harvests per year, compared to uni-modal patterns in northern areas which limit cultivation to once a year (FAO, 2021).

The agricultural sector is the main provider of employment in South Sudan, with 95% of the South Sudanese population relying on farming, herding, or fishing as their main sources of income (OCHA, 2022). Much of this sector remains subsistence-based, meaning that even though a substantial proportion of the population is engaged in agriculture, the sector accounts for less than 15% of the total GDP (UNDP, 2021). Furthermore, this arises from the underutilization of land. The country's geographic position in the Nile Basin renders more than 90% of its land arable, yet only 3.8% of this was estimated to be cultivated in 2015, with extensive areas of land remaining virgin (UNDP, 2021). The Food and Agriculture Organization (FAO) has attributed the limited extent of cultivated areas to the size of the household labour force, the limited availability of efficient tools, and the precarious security situation, which can limit access to land (FAO, 2021). This contributes to the high cereal deficit[1] of about 465, 000 tonnes or 35% of needs in 2021, which indicates that the country is currently unable to produce enough to feed its population and must rely on imports, which are often more expensive

Figure 1.2 Seasonal rainfall patterns in South Sudan



Source: Authors' rendering based on OCHA, 2022.

1 Cereal deficit is the total amount of cereal needed to feed current population levels minus the total cereal produced in the country.

(FAO, 2021). The internal cereal production deficit combined with a decrease in imports because of the war in Ukraine and other environmental crises has led to record-high levels of food insecurity currently being observed in the country.

South Sudan is one of the 10 countries globally that were most affected by climate change in 2019, according to the Global Climate Risk Index (Eckstein, 2021). Flooding affected over one million people in 36 counties across the country in 2022 (OCHA, 2022). It has compounded an already dire humanitarian situation in the country, waterlogging large areas of arable land, washing away crops, contaminating water sources, and forcing the migration of hundreds of thousands of people (UNICEF, 2021). Furthermore, flooding is considered a driver of sub-national conflict as pastoralists and cattle herders are left to compete for the increasingly smaller tracts of usable land (UNICEF, 2021).

Further, flooding has an impact on education delivery as it restricts access to educational facilities by constraining mobility and physically damaging schools. A total of 887 schools were reportedly damaged as a result of flooding in 2022, an increase of 20% from 2021 (OCHA, 2021). At the same time, due to the country's ecological diversity, the northern parts are currently experiencing the effects of drought (UNICEF, 2022). With droughts and floods becoming more unpredictable in recent years due to climate change and the average temperature increasing, the country is becoming increasingly vulnerable and must develop and improve its resilience, including in the education sector. The risks posed by climate-related disasters to education are discussed further in *Chapter 2*, which focuses on risk analysis.

1.1.2 Political context: Peace and security in the world's youngest country

The year 2021 marked the tenth anniversary of South Sudan's independence, which followed the country's secession from Sudan which was supported by 98% of voters in a 2011 referendum (BTI, 2022). Ten years on, the country has experienced two prolonged periods of violence, with the most recent conflict occurring from 2016–2018 resulting in an estimated 380,000 deaths (OCHA, 2020). The conflict officially ended in 2018 with the signing of the Revitalised Agreement on the Resolution of Conflict in South Sudan (R-ARCSS). The R-ARCSS sought to revitalize provisions made in the 2015 peace deal, yet it was also more ambitious with timelines, aiming to end the transitional period by February 2023 when elections would be held (Stamnes, 2019). Key commitments of the deal included the creation of a revitalized transitional government of national unity, the implementation of a permanent ceasefire and transitional security arrangements, the reconceptualization of internal boundaries, the creation of a commission on truth, reconciliation and healing, and the integration of ex-militia into the national army through the creation of a unified command (IGAD, 2018).

The implementation of the peace deal began in earnest in 2020 with President Kiir announcing the return to the 10-state model, including the appointment of state governors. This was swiftly followed by

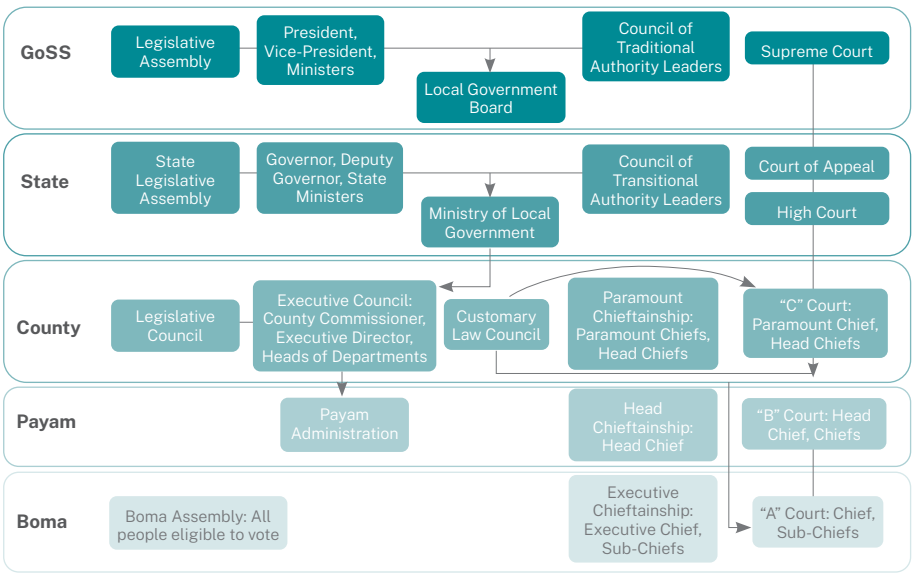
the establishment of the revitalized transitional government of national unity which held its inaugural sitting in August 2021 (Human Rights Watch, 2022). Another major milestone in R-ACASS implementation was achieved in 2022 when the first batch of former rebel rights was integrated into the unified national command. Despite this progress, it was agreed in August 2022 that it would be impossible to fully implement the deal by the February 2023 deadline, and the president – along with four other political groups – agreed to the extension of the agreement by 24 months (International Crisis Group, 2022). The extension included a detailed implementation roadmap for the two-year period, which has been recognized as a crucial step in realizing outstanding R-ARCSS provisions (UN News, 2022). These include creating a commission on truth, reconciliation, and healing and a compensation and reparations authority and drafting a permanent constitution (Human Rights Watch, 2022). The establishment of these bodies and the realization of other elements of the roadmap are necessary for the country to hold its first elections since independence, which are scheduled to take place in 2024 (UN Security Council, 2023).

1.1.3 Governance structure: The transition to decentralization

South Sudan functions under a decentralized system, with responsibilities divided between the national, state, and local levels. This type of system was adopted in the interim constitution of 2011 with aims 'to accommodate the ethnic, cultural, linguistic, religious and racial diversity of the South Sudanese people, promote political pluralism and maintain peace' (GoSS, 2011). The key responsibilities of the central government, which is based in Juba, include the maintenance of peace and security, reconstruction and development, and the promotion of good governance. It exercises power over critical aspects that include national defence and security, foreign affairs, and the judiciary (GoSS, 2011) . States, on the other hand, exercise power over social welfare, including administering state pensions, state civil service, and pre-school, primary and secondary education (GoSS,2011). Both national and state governments are responsible for tertiary education and scientific research (GoSS, 2011).

State governments closely reflect those at the national level, including having legislative and executive (See *Figure 1.3*) organs and constitutions that are aligned with the national. State governors are the heads of states and have the power to appoint advisors and ministers in consultation with the president (GoSS, 2011). Each state has its Ministry of Education (SMoE) with a minister, and it is largely modeled around the national structure. Local government structures encompass tiers at county, payam, and boma levels. According to the constitution, the objective of local governments includes 'promoting self-reliance among the people through mobilization of local resources to ensure the provision of health and educational services to communities' (GoSS, 2011). In this way, local governments, just as at the state and national levels, have the power to levy fees and taxes. Outside this tax revenue, the national government provides transfers to states to aid them in the administration of their functions.

Figure 1.3 Decentralized governance structure



Source: Aeberli, 2012, based on the Local Government Act.

As a country recovering from prolonged violence and conflict, South Sudan's political system is in transition and remains fragile. Given that the current number of states was only established in 2020, and governors also appointed in the same year, state-level administrative functions remain nascent, and institution building is ongoing. County- and payam-level structures, particularly, are seen to lack administrative capacity, skilled personnel, and sufficient resources, meaning that it is difficult for decisions made at the central-level to trickle down to the population (BTI, 2022) (See more on decentralized financing in *Chapter 4*). The R-ARCSS and associated demarcation of internal boundaries, however, are already seen to have positive effects in providing the stability necessary to strengthen a decentralized administrative structure (BTI, 2022).

1.1.4 Conflict and fragility: Enduring sub-national and localized conflict

While the R-ACASS has ended much national conflict, political unrest, inter-communal, and localized conflict, particularly between non-signatories to the 2018 peace deal, continues to fuel violence at the sub-national level in South Sudan. In 2022, more than 80% of all civilian deaths that occurred in the country were attributed to sub-national violence and the activities of community-based militias. The hotspots of intense violence were Jonglei, Lakes, Warrap, and Western Equatoria states (OCHA, 2021).

The year 2022 saw an intensification of sub-national and localized violence,

Figure 1.4 Violence affecting civilians due to conventional conflict from January to September 2022.

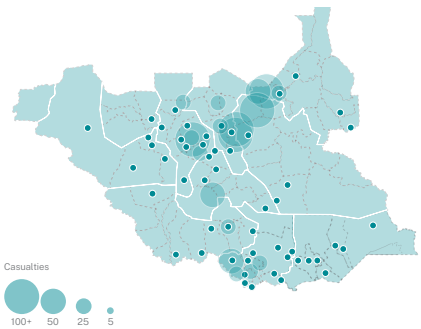
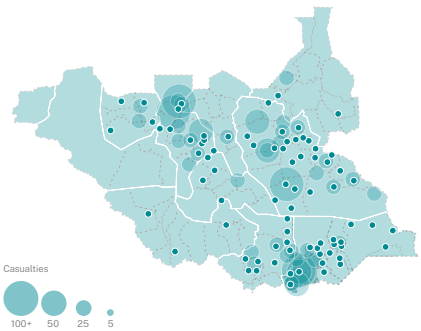


Figure 1.5 Violence affecting civilians due to sub-national conflict from January to September 2022.



Source: OCHA, 2022.

leading to the displacement of more than 300,000 people (OCHA, 2022). Sub-national conflict takes on various forms, which include armed clashes, killings, sexual violence, abductions, the destruction of property, and cattle raiding (OCHA, 2021). The drivers of this conflict are multiple and deeply interconnected, and they include environmental shocks such as flooding that are seen, among other impacts, to drive forced migration. This movement of populations can change the ethnic composition of areas, leading to localized inter-ethnic conflict (OHCHR, 2022). Furthermore, the depletion of food and water resources caused by flooding and drought leads to resource scarcity, which in turn creates localized conflicts over access to those limited resources. This was recently observed in the border regions of Northern Bahr el Ghazal, Unity, and Abeyi (UNICEF, 2022) Cattle raiding is a dominant form of violence across the country, with cattle used as a weapon of war due to the status and power they represent in many communities (UNICEF, 2021). According to the Human Rights Council of the UNMISS, sub-national conflict and insecurity persisted in nine out of the country's 10 states in early 2022 (OHCHR, 2022).

Ongoing conflict affects the delivery of humanitarian aid and educational services. The movement of populations because of conflict limits children's access to schools and has led to the killing of teachers and revenge killings of male students (OCHA, 2020). Schools have also been the target of attacks, and although this has decreased in recent years, more than 50 schools were reportedly attacked between 2017 and 2019 (GCPEA, 2020). The Education Needs Assessment conducted by OCHA in 2021 found that learners frequently cited insecurity in and around schools as a major reason for learner absenteeism and drop-out (OCHA, 2021). Conflict has also affected the much-needed delivery of humanitarian services due to the deterioration of the security situation, with aid agencies facing attacks including the looting of humanitarian supplies and violence against humanitarian workers (UNICEF, 2022). Crime and violence en route to aid distribution sites have also

been reported, creating an additional barrier for populations to access much-needed supplies (OCHA, 2022). The link between sub-national conflict and insecurity and education access will be elaborated further in *Chapter 2*, which focuses on risk analysis.

1.1.5 COVID-19 in South Sudan

South Sudan, like most countries globally, suffered the negative effects of the COVID-19 pandemic in 2019–2021. Schools across the country were closed in March 2020 following the identification of the first cases in the country, only reopening 14 months later in May 2021 (OCHA, 2021). Upon reopening, the effects of school closures were evident in classrooms, not only in the lack of academic progress made but also in the number of pregnant learners that had doubled during the period in some schools (OCHA, 2021). The reopening of schools in May further disrupted the school calendar which traditionally ran from February to December. Schools only returned to the original school calendar in 2023, when they closed for only a week in February before reopening for a new term. The landlocked nature of South Sudan further exacerbated the negative economic effects of COVID-19 on the country, with cross-border trade, on which it is reliant for most of its goods, severely restricted due to border closures resulting from the need to contain the pandemic (OCHA, 2021).

1.2 Socio-demographic background

The most recent national population census in South Sudan was carried out in 2008, before independence. Using this baseline, the South Sudanese National Bureau of Statistics (NBS) made estimations up to the year 2020, and in 2022, recalibrated projections for the years 2020–2040. A combination of these two data sets is presented in the following discussion and is used throughout the analysis in the computation of key indicators.

1.2.1 Population and population growth: Extreme levels of dependency

In 2008, the population of South Sudan was enumerated at 8.4 million, with 2022 projections placing this figure at 14.2 million, representing an increase of almost six million inhabitants or an increase of 69% in 14 years. The population growth rate has averaged 2.9% between 2015 and 2023 and is expected to remain relatively stable over the next five years. This overall population growth has been paralleled by the growth in the school-age population, which expanded by over one million between 2016 and 2022. Almost half of the school-age population lies within the primary age bracket, with pre-primary and secondary making up the additional quarters, respectively.

Despite this growing population, the country still has a low population density,[2] with around 22 inhabitants per kilometre square compared to 91 and 221 in neighbouring countries, Kenya and Uganda, respectively (World Bank, 2020). 80% of the population is concentrated in rural areas, which is higher than the sub-Saharan African average of 60% (OCHA, 2021). Furthermore, the country is characterized by a high demographic dependency ratio of over 100%, indicating a

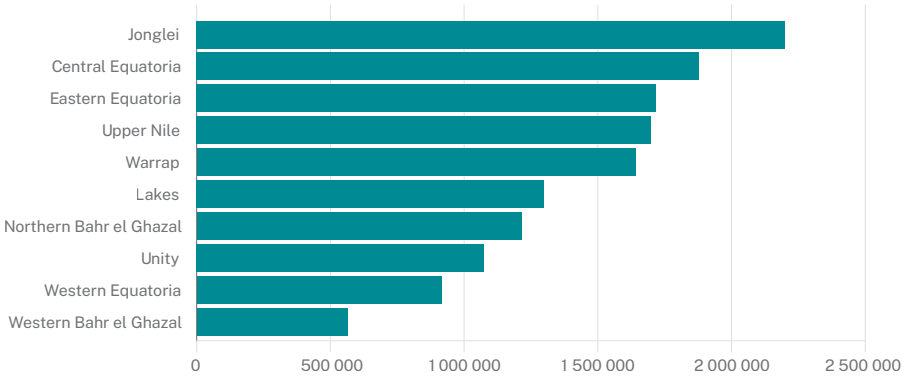
Table 1.1 Population estimation 2016–2025

	2018	2019	2020	2021	2022	2023	2024	2025
Total	**12,812**	**13,079**	**13,357**	**13,651**	**14,200**	**14,675**	**15,145**	**15,693**
Population Growth Rate	2%	2%	2%	2%	4%	3%	3%	4%
Dependent Population	6,641	6,781	6,927	7,082	7,367	7,616	7,861	8,147
Active Population	6,171	6,297	6,430	6,570	6,833	7,059	7,284	7,546
Dependency Ratio	108%	108%	108%	108%	108%	108%	108%	108%
School-aged Population	**5,569**	**5,686**	**5,808**	**5,937**	**6,176**	**6,383**	**6,383**	**6,589**
Pre-Primary Aged	1,382	1,411	1,442	1,474	1,533	1,585	1,636	1,696
Primary	3,005	3,068	3,134	3,204	3,333	3,445	3,556	3,685
Secondary	1,182	1,206	1,232	1,259	1,310	1,354	1,397	1,448

Source: Authors' calculations based on NBS estimates, 2022.
Notes: presented in thousands of inhabitants

2 Population density is calculated by dividing the total population by the total land mass in kilometres squared.

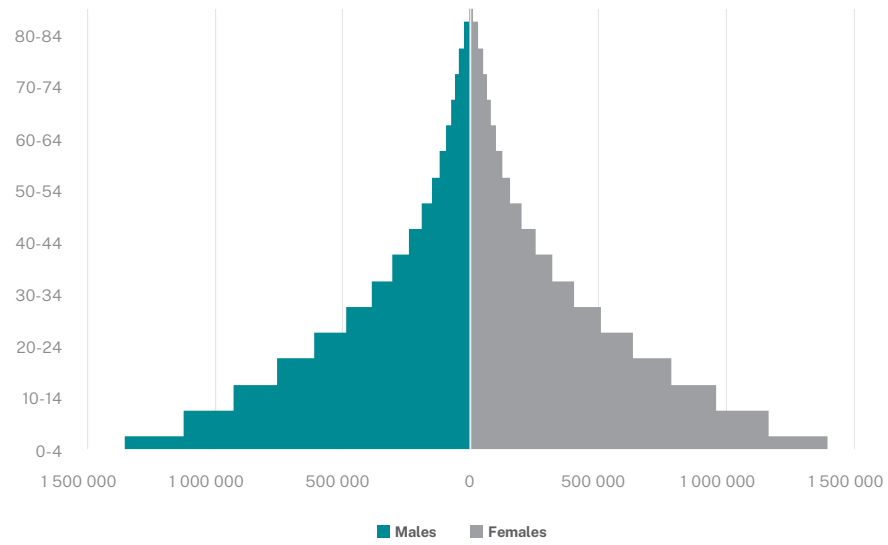
Figure 1.6 Total population by state, 2023.



Source: Authors' calculations based on NBS estimates, 2022.

**The three administrative areas were not separated in NBS estimates and rather they are included in total state populationsNotes: presented in thousands of inhabitants*

Figure 1.7 Population pyramid, 2022.



Source: Authors' calculations based on NBS data, 2022.

larger proportion of the population under the age of 15 and over the age of 65, than those in the active age group. This indicates that the young population exerts elevated levels of pressure on the limited resources being produced by the working population.

The most populous state in 2022 was Jonglei with a population of over 2 million inhabitants, which is over 200, 000 more than the next most populous state of Central Equatoria wherein the capital Juba lies. The least populous states are Western Equatoria and Western Bahr el Ghazal,

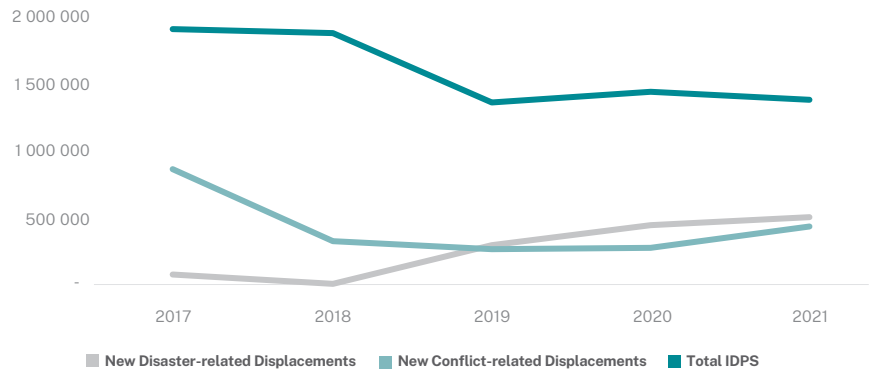
The youthfulness of the South Sudanese population is again reflected in *Figure 1.7* which demonstrates the shape of a rapidly growing population with a low life expectancy, as traditionally observed in low-income contexts. In 2022, nearly half (49%) of the population was under the age of 14 and less than 1% was over the age of 80, with a median age of 18 years. This indicates a high level of demographic pressure on the country, not just in terms of its education system but also its economy and employment opportunities. Educational opportunities need to be expanded to accommodate this growing bulge, as well as to create strong links between education and the labour market to ensure education transitions into meaningful employment.

1.2.2 IDPs and refugees: Multiple migration patterns

South Sudan's population faces pressure from various patterns of migration, including external migration, internal displacement, and the return of previously displaced populations. New internal displacements have intensified in recent years, with more than 550,000 of the 2 million internally displaced persons in the past four years having been displaced in 2021 alone (OCHA, 2021). The causes of displacement can be broadly classified as 'disaster' and 'conflict'. Conflict-related displacements represented most of the new internal displacements in 2017 and 2018, before being overtaken by disaster-related displacements from 2019 onwards. Internal displacements have significant implications for access to and continuity of education, a challenge which requires the most flexible and adaptable systems of educational provision.

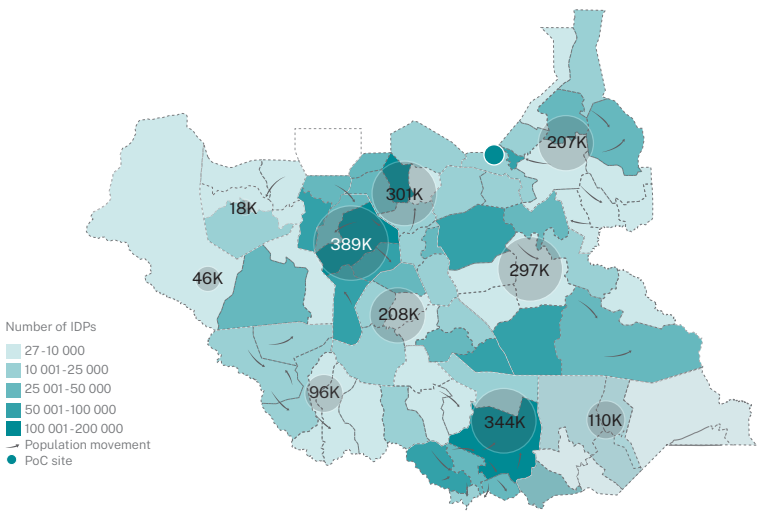
The South Sudan population is made up of internally displaced persons, IDP returnees, refugees, and refugee returnees. Of the total OCHA project population of 12.4 million in 2022, 2.2 million were internally displaced or 18%, of which over 537,000 lived in displacement sites (OCHA, 2022). Since 2018, over 600,000 refugees returned from abroad, while 2.3 million continue to reside in neighbouring countries (OCHA, 2022). Additionally, South Sudan is also host to more than 337,000 refugees, mostly from the Republic of Sudan (OCHA, 2022).

Figure 1.8 Internally displaced persons, 2017–2021.



Source: IDMC, 2022.

Figure 1.9 Internally displaced people by state, 2022. .



Source: OCHA, 2022.

1.2.3 Poverty and development measures: Widespread poverty across the country

This chapter's ability to fully understand the social development context of South Sudan is hampered by a lack of recent data, notably a household survey. The last major survey was the High-Frequency Survey conducted by the World Bank in 2016–2017, and while this provides a basis for our discussions, this data does not consider the worsening humanitarian situation seen in recent years nor the political stability ushered in by the 2018 peace agreement.

South Sudan is in the midst of a humanitarian crisis, with an estimated 8.9 million people out of a population of 14 million in 2022 needing humanitarian assistance (OCHA, 2022). Living conditions have deteriorated, with the proportion of the population living in poverty increasing from 51% in 2009 to 82% in 2017. Poverty rates are higher among rural households at 85% compared to urban ones at 65%, with rates among IDPs even higher at 91%. While poverty is widespread across the country, it does range from a low of 53% in Western Equatoria State to 95% in Eastern Equatoria.[3] This contributes to South Sudan's ranking of 185 out of 189 countries in the Human Development Index.

1.2.3.1 Food security and malnutrition

A total of 6.6 million people faced severe food insecurity (Integrated Phase Classification Category 3 or higher[4]) in South Sudan between October and November 2022, with the worst affected states being Jonglei, Unity, and Northern

Table 1.2 Poverty rates by select characteristics, 2017.

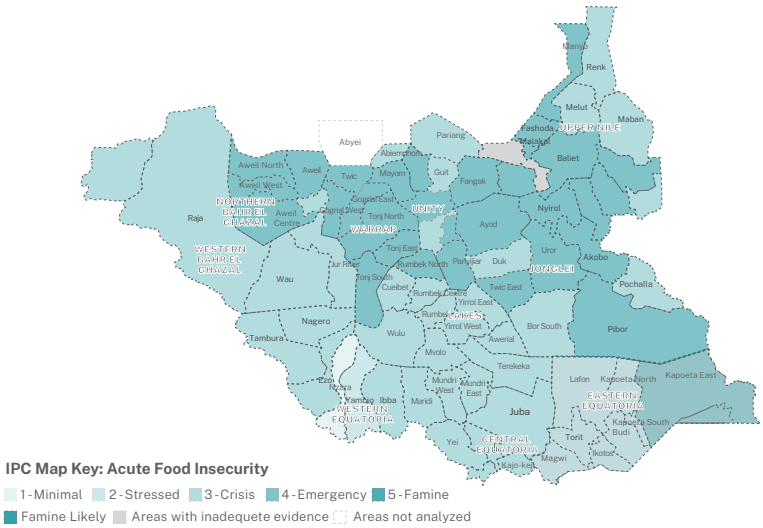
Characteristic	% of the population living on $1.90 PPP per person per day
Total	82
Urban	65
Rural	85
IDP	91
Northern Bahr el Ghazal	90
Western Bahr el Ghazal	90
Lakes	84
Western Equatoria	53
Central Equatoria	80
Eastern Equatoria	95

Source: Authors' calculations based on HFS data, 2017.

3 Only six of the 10 states were covered in the HFS survey.

4 The Integrated Phase Classification describes the severity of food emergencies, and classification is based on indicators related to food consumption, livelihoods, malnutrition, and mortality.

Figure 1.10 South Sudan Integration Food Security Phase Classification (October–November 2022)



Source: Integrated Food Security Phase Classification, 2022

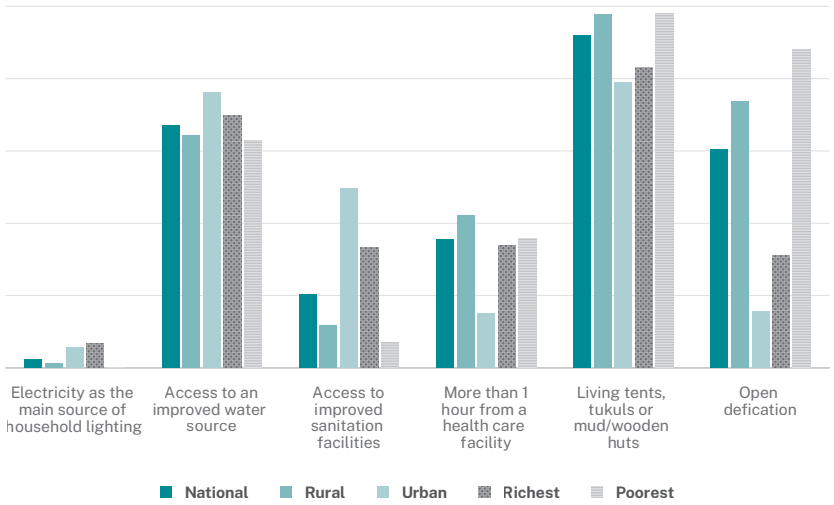
Bahr el Ghazal (IPC, 2022b). Early 2022 saw an overall increase in food insecurity, driven by both the COVID-19 pandemic and the crisis in Ukraine, which have caused high inflation and associated rises in the cost of fuel and food (WFP, 2022). The World Food Programme observed an increase in the price of staple cereals of up to 100% in some states between February and June of 2022, which has worsened an already dire situation (WFP,2022). Alongside external shocks, food insecurity in South Sudan is further driven by violence which has displaced populations from their agricultural lands and places where they have consistent access to food supplies (OCHA, 2021). Additionally, flooding in recent years has decreased the total cereal production in the country. This contributes to high levels of malnutrition, with an estimated 1.4 million children under the age of five expected to suffer from malnutrition between July 2022 and June 2023 (IPC, 2022b).

1.2.3.2 Household characteristics: Limited access to key infrastructure and essential services

High levels of poverty are mirrored in low levels of access to key infrastructure at the household level. Most of the population (92%), in both urban (79%) and rural areas (98%), live in non-solid structures, with 75% of inhabitants living in the traditional mud huts with grass-thatched roofs known as Tukul-Gottya. Access to electricity is severely limited, with only 2% of households using it as the main source of lighting, with an estimated 28% of the population having access to electricity overall in 2018 (BTI, 2022). The country lacks a nationally supported electrical grid or power facilities, with almost the entire country running on diesel generators (World Health Organization, 2018).

In 2016, 67% of the population was reported to have access to improved

Figure 1.11 Household infrastructure and access indicators, 2017.



Source: Authors' calculations based on SSHFS data, 2017.

water sources, ranging from 64% in rural areas to 76% in urban. Access to sanitation facilities is seen to be more limited, with only 7% of those in the poorest wealth quintile and 12% of those living in rural areas having access to these facilities. Furthermore, 61% of the population practices open defecation, reaching 88% among the poorest wealth quintiles, which increases exposure to risks of communicable diseases. There are varying levels of access to health care facilities, with the proportion of the population living less than one hour from a healthcare facility higher among urban than rural populations. It must be noted that most of these values are likely to have decreased since 2017 because of the destruction and damage to water facilities and reduction in access to sanitation resulting from the unprecedented levels of flooding seen since 2018 and continued sub-national conflict.

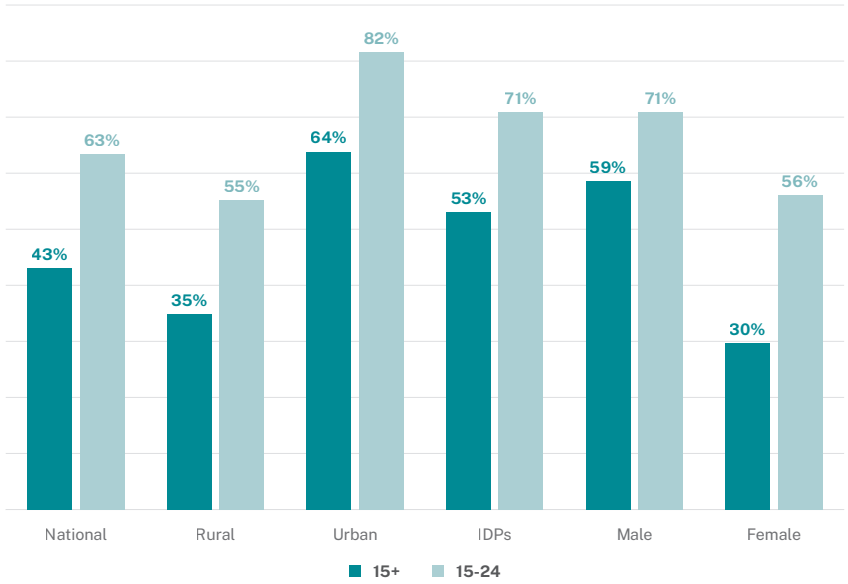
Limited access to water and sanitation facilities contributes to the prevalence of preventable diseases, with the country regularly affected by epidemics and contagious diseases including cholera, malaria, and measles (World Health Organization, 2018). Poor sanitation alongside low immunization rates contributes to the high rates of both infant and under-five mortality in the country, with one in 10 children dying before the age of five. Of these deaths, 75% are estimated to be due to preventable illnesses, again highlighting the lack of access to essential medical services (OCHA, 2020). The food insecurity noted earlier also has negative effects on the health of children, with 16% reported to be wasted and stunted in 2018 (Food Security Information Network, 2021). These figures can be assumed to be higher in the current context, given the recent worsening of the food crisis. These low-health indicators contribute to South Sudan having one of the 10 lowest life-ex-

Table 1.3 Select socio-demographic indicators, 2021 or the most recent year.

Indicator	Value
Proportion of children under five wasted	15.8%
Proportion of children under five stunted	15.6%
Maternal mortality (per 100,000 live births)	1150
Infant mortality (per 1,000 live births)	63.34
Under-five mortality (per 1,000 live births)	97.86
Urbanization rate	20.2%
Fertility rate (births per woman)	4.62

Source: Data on infant mortality, child mortality, stunting and wasting are from the Global Report on Food Crises (FISN, 2021). Data on maternal morality are from the UNICEF Data Warehouse in South Sudan (UNICEF, 2017). Data on fertility and urbanization rates are from the World Bank, World Development Indicators (World Bank, 2019).

Figure 1.12 Literacy rate by select characteristics, 2016.

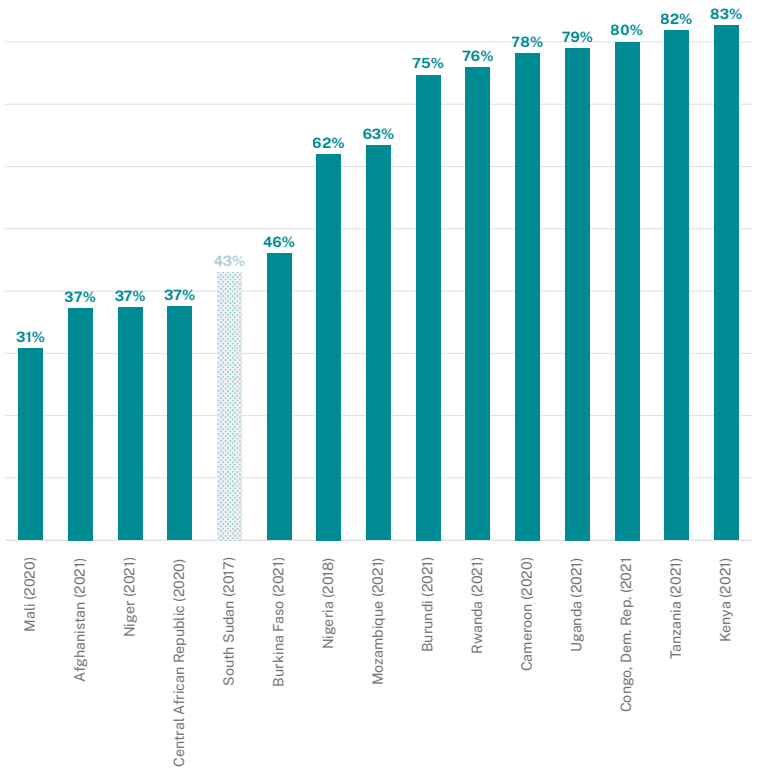


Source: Authors' calculations based on SSHFS data, 2017.

pectancies globally at 57 years in 2015 (World Bank, 2018).

43% of the population of South Sudan aged 15 and above were literate in 2016, rising to 63% among those aged 15 to 24 (World Bank, 2018). Literacy was consistently higher among urban and male populations, with the highest rate of 82% observed in urban areas among individuals aged 15 to 24. Promisingly, the greatest difference between those aged 15 and older and those in the 15–24 age group is observed among females at 30%,

Figure 1.13 Literate population aged 15+ comparison, select countries and years



Sources: World Bank, World Development Indicators, 2023. Authors' calculations based on SSHFS data, 2017.

which indicates that young women have significantly more opportunities to access education than their predecessors.

Compared to neighbouring countries and other countries affected by conflict, South Sudan sits on the lower end of literacy rates. The low levels of literacy in the country are particularly evident compared to neighbouring countries that include the Democratic Republic of the Congo at 80% and Kenya at 83%. It is also notable that countries at the bottom of the scale are those affected by conflict, indicating the inherent association between conflict and educational attainment.

Early marriage is widespread in South Sudan, with 2010 estimates citing that 52% of South Sudanese girls between the ages of 15 and 18 are married, with some marrying as young as 12 (Ministry of Health, 2010). This contributes to the high adolescent birth rate also observed in the country, with one-third of women aged 15–19 already having begun childbearing in 2018 (World Health Organization, 2019). Early marriage and childbearing contribute to girls' dropout from school, which in turn contributes to overall lower levels of education as reflected in literacy rates above.

1.3 Macroeconomic context: A resource-rich economy highly vulnerable to external shocks

South Sudan's economy benefits from having one of the largest reserves of petroleum in sub-Saharan Africa. At the same time, this increases the country's economic vulnerability, as it renders it heavily dependent on the international price of oil. The extremes of this vulnerability were seen in recent years with the drop in oil prices during the COVID-19 pandemic leading to a contraction of the country's GDP, while the 2022 war in Ukraine and the associated increase in the price of oil expected to have positive effects on economic recovery.

1.3.1 GDP and growth: Economic growth constrained by external shocks

The GDP in 2021 showed signs of a rebound from the COVID-19 pandemic. It is expected to have had even greater growth in 2022 because of the increase in the price of oil related to the conflict in Ukraine; however, this data is not yet available. Of the total GDP, the contribution of the oil sector was 29% in 2021. Examining the trend over time, GDP has increased in current prices since 2015; however, in constant prices (2015), this growth is more limited, with GDP decreasing between 2016 and 2017 and 2019 and 2020. The decrease in GDP in 2017 can be explained by the high levels of inflation observed in this particular year as well as proceeding years as is discussed further below. The contraction of GDP in 2020 in constant prices is reflective of the negative impact of COVID-19 on the country's economy, interrupting two consecutive years of high growth.

Table 1.4 Gross Domestic Product, 2015–2021.

	2015	2016	2017	2018	2019	2020	2021
Current prices Million SSP							
GDP	25,480	153,103	405,877	1,144,297	2,597,882	3,002,301	4,245,061
Annual Growth	-73%	83%	62%	65%	56%	13%	29%
Non-oil GDP	18,973	85,451	194,813	785,263	2,201,803	2,730,033	3,003,955
% of Oil GDP	26%	44%	52%	31%	15%	9%	29%
GDP/capita	2,186	12,654	32,318	89,316	198,637	224,771	310,965
Constant Prices (2015), Million SSP							
GDP	25,480	36,219	30,676	47,158	71,715	66,846	72,577
Annual Growth	15%	30%	-18%	35%	34%	-7%	8%
Non-oil GDP	18,973	20,215	14,724	32,362	60,781	60,784	51,358
GDP/capita	2,186	2,993	2,443	3,681	5,483	5,005	5,317

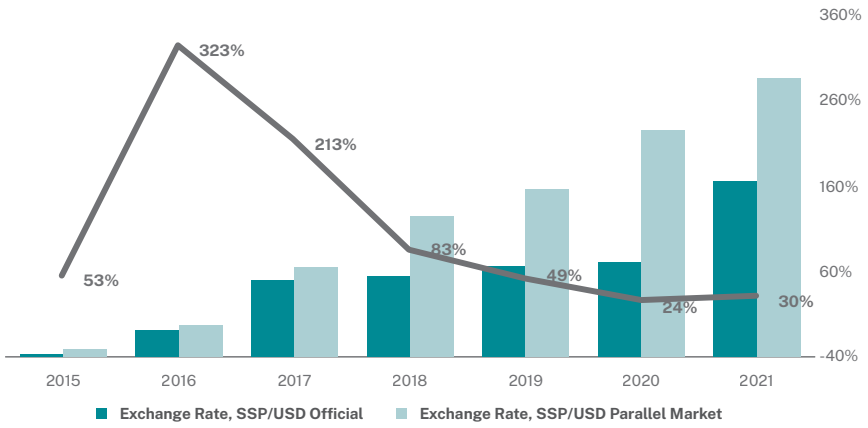
Source: National Bureau of Statistics, 2022.

1.3.2 Hyperinflation and its continued effects on the South Sudanese economy

The South Sudanese economy has suffered from high inflation and witnessed extreme currency devaluation since 2015; both restricted the country's economic growth. Inflation was highest between 2015 and 2018, reaching a peak of 323% in 2016, which may be attributed to repeated policy blunders and an escalation in violence (Etang, 2022). For example, the intensified conflict during this period and associated forced migration and insecurity led to a decline in oil prices (World Bank, 2017). Despite efforts to reduce spending, this created a large fiscal deficit, which the Bank of South Sudan then responded to through monetization (World Bank, 2017). This process, including the printing of money and accumulation of stock of debt, rather than solving the problem, led to hyperinflation and currency devaluation as reflected in *Figure 1.14* (Etang, 2022). While the government ended its monetary financing policy in late 2017, leading to the stabilization of prices, the COVID-19 pandemic and the associated decline in oil prices reversed some of this progress by forcing the bank to once against re-engage in some monetary financing, thereby increasing debt and inflation once more (World Bank, 2021).

Monetization put additional pressure on weak international currency reserves, pushing the government to implement currency restrictions, and resulting in increased demand in the parallel exchange market (World Bank, 2017). In response to the growing gap between the official and parallel exchange rates, the Bank of South Sudan shifted from a fixed exchange rate arrangement to a managed float in January 2016 (World Bank, 2018). However, because of a further decrease in oil prices, increased security spending, and a continuation of monetization policies, inflation continued in 2017, and devaluation worsened (World Bank, 2017).

Figure 1.14 Inflation and exchange rates, 2015–2022.



Source: National Bureau of Statistics, 2022.

Table 1.5 CPI Inflation, year-on-year, select years and countries.

Country	2015	2017	2019	2021
Burkina Faso	0.7%	1.5%	-3.2%	3.7%
Burundi	5.5%	16.1%	-0.7%	8.4%
Cameroon	2.7%	0.6%	2.5%	2.3%
Central African Republic	1.4%	4.2%	2.7%	4.3%
Ethiopia	9.6%	10.7%	15.8%	26.8%
Iraq	1.4%	0.2%	-0.2%	6.0%
Kenya	6.6%	8.0%	5.2%	6.1%
Mali	1.5%	1.8%	-1.7%	3.9%
Mozambique	3.6%	15.1%	2.8%	5.7%
Niger	-0.6%	2.8%	-2.5%	3.8%
Nigeria	9.0%	16.5%	11.4%	17.0%
Rwanda	2.5%	8.3%	3.3%	-0.4%
South Sudan	**322.7%**	**83.4%**	**24.0%**	**17.6%**
Tanzania	5.6%	5.3%	3.5%	3.7%
Uganda	5.6%	5.2%	2.9%	2.2%

Source: World Bank, World Development Indicators, 2023. South Sudan National Bureau of Statistics, 2022.

As with inflation, the highest levels of currency devaluation were observed in the 2015–2018 period, with the exchange rate increasing from USD 1 to SSP 12 in parallel markets in 2015 to USD 1 to SSP 156 in 2017. The gap between the exchange rate in official and parallel markets continued to widen between 2015 and 2020 driven by a reluctance of South Sudan authorities to allow the rate to be market-determined (World Bank, 2018).

Following the 2018 peace agreement and the end of monetization policies in 2020, relative economic stability has been restored, with financial reforms and strengthening currently underway. This stability, alongside strong fiscal management from the Bank of South Sudan, led to the convergence of the official and parallel exchange rates in August 2021, which has remained relatively stable since (World Bank, 2022). As such, the current economic outlook for South Sudan is 'cautiously positive' with mild growth anticipated over the next few years under the caveat that the peace process holds and that economic management reform programmes are successfully implemented (World Bank, 2022: 30).

While hyperinflation is often associated with conflict, the above table, which compares South Sudan with both neighbouring countries and those affected by conflict, contextualizes the uniquely extreme levels of inflation witnessed in the country. Over the period considered, no other country reached the extreme levels of inflation South Sudan reached in 2015, 2017, and 2019, while in 2021 Ethiopia and Nigeria are seen to have

Figure 1.15 Average prices of a food basket and MSSMEB, August 2019–August 2022.

Source: REACH Joint Market Monitoring Initiative, 2019–2022.

experienced similar levels of inflation as South Sudan. This further underlines the severity of hyperinflation in South Sudan, particularly between 2015 and 2019.

While inflation may be decreasing globally, the reality for many South Sudanese is that prices of necessities fluctuate from month to month, with a particularly large increase seen in 2022 because of the global cost of living crisis. The cost of the multi-sectoral survival minimum expenditure basket (MSSMEB), which represents the minimum culturally adjusted group of items required to support a six-person South Sudanese household for one month, doubled between August 2019 and August 2022. Within this basket is the minimum food basket which only considers the minimum food items to feed an average six-person family. From December 2021–August 2022, the cost of food items increased at a higher rate than non-food items, an element which is particularly concerning given the already high levels of food insecurity observed in the country. Additionally, the MSSMEB was estimated at a total of SSP 48, 770 per month in December 2021, which when compared with the monthly average GDP per capita of around SSP 26, 000 further underlines the high levels of poverty experienced by the population, with many unable to meet their basic needs.

1.3.3 Revenue management: Parallel systems of oil and non-oil revenue

Revenue in South Sudan can broadly be split into oil and non-oil revenue, with the latter representing an estimated 90% of all revenue in 2021/2022 (GoSS, 2022). However, oil production is still yet to return to pre-civil war levels, and it has been estimated that as much as 90% of the country's oil and gas reserves remain unexplored (World Bank, 2022b). South Sudan generates revenue from its oil reserves through its national oil company Nilepet, which receives a fixed percentage of exported crude oil from the three major companies currently operating in the

country (World Bank, 2022b). Oil revenue management is guided by the Petroleum Revenue Management Act of 2012, which mandates the collection of revenue from the extraction of petroleum to be a national rather than state or community-level task (Reng, 2018). According to the Act, all petroleum revenues are directed into the petroleum revenue accounts within the Bank of South Sudan (GoSS, 2012). Of the total oil revenues, 75% is allocated to the revenue account, while 25% is allocated to the savings fund consisting of 10% to the oil revenue stabilization account and 15% to the future generations fund (Savage, 2013). Both saving funds are conceptualized to provide long-term stability in the context of the volatility of the global oil price as well as sustainability for a future where all of South Sudan's oil reserves would have been depleted (Reng, 2018).

Non-oil revenue is managed by the National Revenue Authority whose core functions include collecting and accounting for all tax revenue due to the government (GoSS, 2016). National-level taxes include importation and excise taxes, personal income tax, and business profits tax. In addition to national-level taxes, states and communities may set their own taxes, and state governments have authority over their financial management and are responsible to their respective state legislative assemblies (GoSS, 2011a). Efforts made during this analysis to obtain revenue and expenditure data from state and administrative areas were unsuccessful and, as a result, it is not clear how much revenue was generated at the state level. Furthermore, while the 2011 Financial Management and Accountability Act guaranteed this level of autonomy for states, the National Revenues Act of 2016 added a level of confusion by mandating that all revenues be pooled and administered in a single treasury account (NRA, ABD, UNDP, 2021). This led to tension between the central and decentralized revenue collection agencies. However, recent efforts have been made to clarify some of these challenges of overlapping jurisdiction (NRA, ABP, UNDP,2021).

1.3.4 Government expenditure: Lack of government prioritization of the education sector

Total government expenditure reached over 700 billion in 2021/22, a 50% increase from the previous year. Most of the expenditure (62%) was allocated to the use of goods and services, followed by 22% for salaries, and 11% for transfers and grants. The proportion of overall government expenditure allocated to salaries has seen a declining trend, decreasing from 50% in 2014/2015 to 22% in 2021/2022. This decline is complemented by a rapid increase in the proportion allocated to goods and services, increasing from 22% in 2014/2015 to 62% in 2021/2022. This large and increasing proportion allocated to goods and services can potentially be related to growth in consultancies and the provision of office equipment; however, it is important to note that the presentation of these operating costs can often lack transparency and funds are susceptible to misappropriation.

Transfers to the states, administrative areas, and counties are either in the form of conditional grants, which are distributed directly by ministries for specific purposes, or in the form of uncondi-

Table 1.6 Total government expenditure by category, current prices (Million SSP) 2015–2021.

	2016	2017	2018	2019	2020	2021	2022*
Wages and salaries	7,487	13,539	20,651	24,376	36,485	46,871	158,678
Use of goods and services	4,208	12,523	23,738	69,487	87,595	285,636	449,111
Transfers and grants	2,986	3,623	7,989	17,891	20,557	20,912	77,102
Capital expenditure	2,099	1,889	1,040	6,145	18,017	1,871	24,904
Interest, grants, and loans	920	512	264	3,932	6,749	4,580	13,774
Total Spending	**18,577**	**32,624**	**53,682**	**121,832**	**169,403**	**359,871**	**723,541**
As % of total expenditure							
Salaries	40%	42%	38%	20%	22%	13%	22%
Use of goods and services	23%	38%	44%	57%	52%	79%	62%
Transfers and grants	16%	11%	15%	15%	12%	6%	11%
Capital expenditure	11%	6%	2%	5%	11%	1%	3%
Interest, grants, and loans	5%	2%	0%	3%	4%	1%	2%

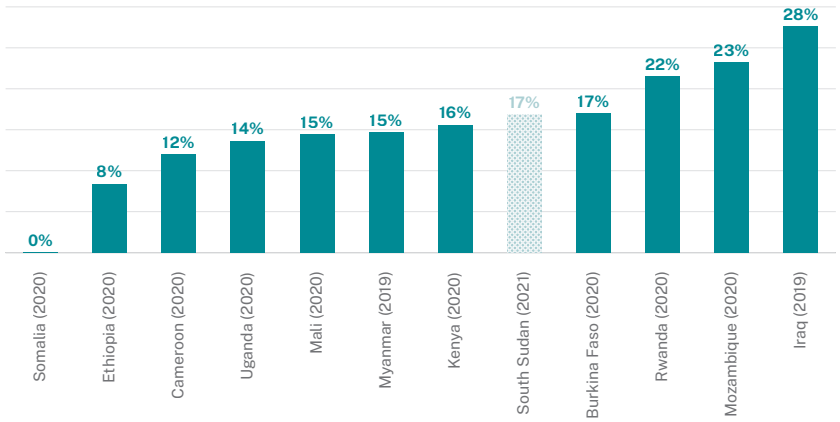
Source: GoSS Budget Documents, 2014–2021.
**Categorical breakdown of expenditure is estimated based on Q4 outturn breakdown*

tional grants that are allocated to state ministries of finance, cover basic administrative and social services (GoSS, 2011a). Unconditional grants are calculated using a formula which considers population, financial resources, and other indicators deemed to be relevant by the Fiscal and Financial Allocation Monitoring Commission in collaboration with the Ministry of Finance and Planning (GoSS,2011a). While the internally generated revenue envelope of states is not clear from this analysis, 11% of total expenditure on transfer seems very low to support the adequate and equitable delivery of public services at the decentralized levels. Furthermore, the proportion allocated to transfers has decreased over time, representing an increasing concentration of expenditure at the centralized level, despite government policies which prioritize the strengthening of the decentralized levels.

As part of the Petroleum Revenue Management Act and the Transitional Financing Agreement signed with Sudan in 2012, South Sudan is committed to a variety of mandatory payments that are subtracted from gross oil revenues, with the resulting net oil revenues forming part of the public financing envelope. As a result of the country's low internal capacity to refine oil and its landlocked nature, the GoSS pays part of its oil revenues to the Government of Sudan for transportation, transit, and processing services (GoSS and GoS, 2012). In addition, South Sudan has gradually been paying a fixed sum of USD 3 billion to the Sudanese Government. However, this payment expired in the 2021/22 fiscal year, opening a significant fiscal space (World Bank, 2022b).

The GoSS also committed to mandatory transfers of 2% and 3% of oil revenues to oil-producing states and communi-

Figure 1.16 Total expenditure as % of GDP, select countries and years.



Source: World Bank, World Development Indicators, 2023. IFMIS South Sudan, 2021/2022 and NBS South Sudan 2022.

ties, respectively as part of the Petroleum Revenue Management Act (GoSS, 2012). Of this 3%, 55% should be allocated to 'affected communities' while the remaining 45% is allocated to 'neighbouring communities', although the definition criteria for these two communities remains unclear (GoSS, 2012). Additionally, from 2021/22, authorities committed to allocating 10,000 barrels per day towards financing the 'oil for roads project' (World Bank, 2022b). The final transfer type of 8% which is allocated to Nilepet, the country-owned oil company, supports oil extraction activities. The total of these mandatory transfers totalled more than 47% of gross oil revenue in 2021/22, thereby diminishing the fiscal value this resource can bring to the provision of public services such as education in South Sudan.

Figure 1.16 presents World Bank findings on total government expenditure as a proportion of GDP in select countries in sub-Saharan Africa as well as conflict-affected countries in 2023. The results show that South Sudan has a relatively high level of expenditure concerning GDP, evidencing a substantial base of public resources on which it can draw to implement public policy and deliver public services.

Spending on the education sector has stagnated at 6% of total expenditure in the last three financial years. Overarchingly, public administration and infrastructure development dominate spending patterns, with the government spending less on social services such as education and health. For example, health represents less than 1% of expenditure in 2021/2022. Furthermore, great fluctuation is seen in sub-sector expenditures, raising questions about the government's long-term vision and the sustainability of financing. For example, security represented 69% of spending in 2020/2021 and only 12% in 2021/2022, wherein economic functions dominated spending.

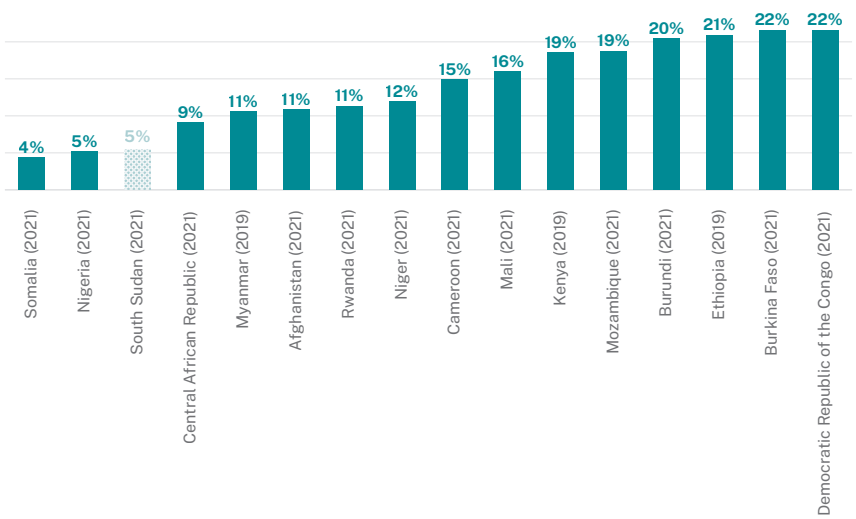
Compared to neighbouring countries and those similarly affected by conflict, South Sudan has one of the lowest levels

Table 1.7 Proportion of total expenditure by sub-sector, 2014–2021.

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Accountability	59%	14%	16%	27%	45%	2%	0%
Economic functions	4%	1%	1%	1%	0%	8%	37%
Education	**12%**	**3%**	**4%**	**3%**	**6%**	**6%**	**6%**
Health	5%	1%	2%	0%	1%	1%	0%
Infrastructure	10%	1%	1%	1%	1%	2%	15%
Nat. res. and rural dvpt	7%	2%	2%	1%	1%	0%	1%
Public administration	0%	29%	27%	15%	21%	8%	16%
Rule of law	0%	11%	11%	7%	10%	3%	12%
Security	0%	36%	37%	41%	14%	69%	12%
Social and humanitarian Affairs	2%	1%	1%	5%	0%	0%	1%

Source: Authors' calculations based on IFMIS data, 2014–2021.

Figure 1.17 Total education expenditure as a proportion of total government recurrent expenditure, select countries and years.



Source: World Bank, World Development Indicators, 2023. South Sudan IFMIS, 2021/2022.

of expenditure on education, with only Somalia and Nigeria citing lower figures. Furthermore, when compared with countries such as Burkina Faso and the Democratic Republic of the Congo, which are classified as conflict-affected by the World Bank, they are both observed to have spent 22% in 2021. This suggests that conflict and fragility need not bar the prioritization of education spending and further underlines the need for South Sudan to reconsider its allocations to the sector.

1.3.4.1 Government debt

Following years of monetization policies and heavy borrowing, South Sudan maintains high levels of debt, standing at 2.7 billion or 49% of GDP in 2021. Much of the debt is from external creditors in the form of commercial loans, most of which use oil revenues as collateral and oil advances (World Bank, 2022). As a result, despite efforts to diversify income sources and move away from reliance on oil, the pressure from these two types of debt pushes the country to continue to expand current levels of extraction, thereby counteracting these advances (World Bank,2022). While there remains a risk for South Sudan to enter debt distress, the World Bank estimates that current levels of debt are sustainable (World Bank,2022).

1.3.4.2 Off-budget external financing: External support to meet pressing needs

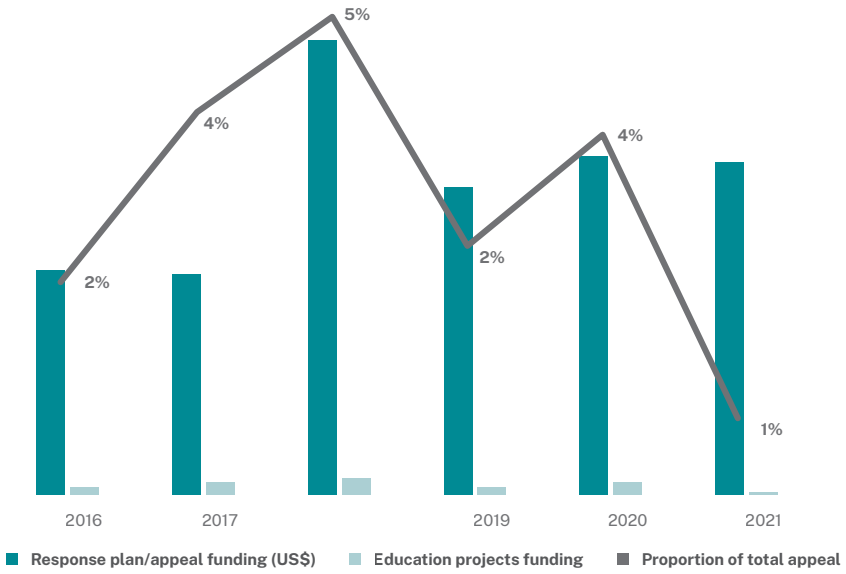
The Humanitarian Response Plan is a presentation of the coordinated, strategic response devised by humanitarian agencies to meet the needs of people affected by crises. It brings together key donor contributions across the humanitarian sector and has existed in South Sudan since independence. Actual contributions to the Humanitarian Response Plan have topped USD 1 billion every year since 2018; however, education-related projects have never represented more than 5% of earmarked funding, with sectors receiving the largest proportions of funding being coordination and common services, food security, and livelihoods and nutrition. While education is often considered more of a development activity than a humanitarian response, the allocation of the response plan demonstrates that little funding is being committed to support the continuity of education for South Sudanese children during crises, especially those that are forcibly displaced.

Table 1.8 Total debt stock, 30 June 2021, million USD

	Total outstanding	Percentage of GDP
Total debt	2, 747	49%
External debt	2, 238	40%
Multilateral	327	6%
Bilateral	150	3%
Commercial	1, 138	20%
Oil advances	623	11%
Domestic debt	489	9%
Overdraft from BOSS	489	9%

Source: GoSS Budget Book, 2021/2022.

Figure 1.18 South Sudan humanitarian appeal response financing, 2016–2021.



Source: OCHA, Financial Tracking Service, 2016–2022.

1.4 Chapter summary

While conflict at the national level in South Sudan ended in 2018, continued sub-national conflict and the political legacies of previous violence continue to affect governance. Many elements of the 2018 peace deal are yet to be implemented, most notably democratic elections. Furthermore, the decentralized system that was erected as a measure of pacification of warring parties is limited in its functionality due to capacity constraints at the decentralized levels.

Demographic pressures in South Sudan are multi-fold, arising from a growing population, internal displacement, the influx of refugees, and the return of refugees from neighbouring countries. These pressures create a rapidly growing population that is heavily composed of youth, leading to an extremely high dependency ratio. This is a particular concern for the education system as it necessitates the expansion of the system to accommodate the growing young population. It also creates the need for specialized programmes to support those returning from abroad as well as those facing internal displacement.

Most of the South Sudanese population is poor, an element which is driven by concurrent shocks in the form of ongoing conflict, natural disasters, and the legacy of war. Access to key infrastructures at the household level is limited, with low-quality sanitation contributing to the high rates of preventable disease, especially among children. The past three years have been particularly difficult as the country faced food insecurity, with more South Sudanese requiring humanitarian assistance.

South Sudan has faced extreme levels of inflation and currency devaluation in recent years, stalling economic growth in the country. This has meant that GDP has remained stagnant over the period and increases in government expenditure have failed to keep up with inflation rates. Furthermore, South Sudanese continue to suffer from the effects of inflation, with many unable to afford necessities. Education has not been a government priority, with economic functions and security representing the greater proportion of expenditure.

Chapter 2
Analysis of conflicts and disasters

When all United Nations (UN) Member States adopted the 2030 Agenda for Sustainable Development in September 2015, they pledged to 'leave no one behind'. Although many strides have been made towards achieving the Sustainable Development Goals (SDGs), many challenges remain. *Conflicts* and *disasters* are acute issues that could put the goals of the 2030 Sustainable Agenda at risk, especially Sustainable Development Goal (SDG) 4,[5] and South Sudan is not an exception. In fact, 'more than half of out-of-school children of primary-school age live in countries affected by emergencies'(UNICEF, 2018, para. 7).

Disasters and conflicts frequently affect South Sudan. This, in turn, affects children's education not only directly by putting children's and teachers' lives and well-being at risk and destroying education infrastructure, but also indirectly through food insecurity, and forced migration, among others. Climate change is considered a 'threat multiplier'(Shepard, 2018)with serious implications for development prospects in Africa. Disasters and conflicts frequently affect South Sudan. This, in turn, affects children's education not only directly by putting children's and teachers' lives and well-being at risk and destroying education infrastructure, but also indirectly through food insecurity, and forced migration, among others. Climate change is considered a 'threat multiplier'(Shepard, 2018) as it has the potential to exacerbate existing vulnerabilities and weaken coping capacities. It could increase the risk of conflicts and disasters in South Sudan, thus intensifying their negative impacts on education. Although climate change effects, such as more intense extreme weather events (e.g. floods), have already negatively affected the country in recent years, the situation is expected to worsen in the future as extreme weather events are becoming the norm rather than the exception (OCHA, 2022a).

The most vulnerable students – including girls, poor, disabled, and minority children – will suffer the greatest consequences of climate change as they have less capacity to cope with and recover from disasters. They are at high risk of dropping out of school if no action is taken. This situation could, in turn, decrease their future opportunities, potentially leading to a poverty trap in the long term and thus exacerbating existing inequalities and vulnerabilities to climate change. However, education cannot only be seen as a victim of climate change (UNICEF, 2020). Evidence suggests that it can play an active and key role in both climate change adaptation and environmental sustainability.

This chapter analyses the main natural hazards and conflict in South Sudan and their impact on education. The chapter is divided into three sections. Section 2.1 identifies and describes the main hazards[6] in the country, as well as the states most at risk.[7] Section 2.2 explains how these hazards may affect children's education in South Sudan in terms of access, equity, management and quality, and learning. Finally, Section 2.3 presents the existing institutional, organizational, and individual capacities to mitigate the effects of disasters and conflicts on education in South Sudan.

5 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

6 According to the Intergovernmental Panel on Climate Change (IPCC) hazard refers to 'the potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems, and environmental resources'(IPCC, 2018, p. 551).

7 Risk 'results from the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence' (IPCC, 2018, p. 557).

2.1 Continued conflict and increasingly severe floods and droughts pose major threats to South Sudan's population

South Sudan remains one of the most at-risk countries in the world. South Sudan's INFORM risk index for 2022 stood at 8.5, ranking the country as the second most likely to need humanitarian assistance out of 191 countries (see *Box 2.1*). Countries with a similar level of risk include Central Africa Republic, Somalia, and Yemen. South Sudan's risk index has increased in recent years, from 7.8 in 2014 to 8.5 in 2022. This situation is mainly explained by a lack of coping capacity (score of 9.4[8]) and a high level of vulnerability (score of 9). It is important to note that the country is also highly exposed to hazards (score of 7.3), including both natural hazards and conflicts.

Although the country is highly prone to weather-related disasters and conflicts, the situation is expected to worsen as climate change evolves. Specifically, South Sudan is expected to experience: 1) increased temperature, 2) increased incidence of drought, 3) increased unpredictability of seasonal rains, as well as 4) increased intensity of rainfall events (USAID, 2016, 2019), and heavy flooding. South Sudan's dependency on rain-fed agriculture,[9] in addition to existing high levels of poverty and food insecurity, coupled with a lack of effective climate change adaptation strategies, and risk reduction measures, makes the country very vulnerable to climate-related environmental changes. The 2017 Climate Change Vulnerability Index ranked South Sudan as one of the five countries most affected by climate change (The World Bank and FAO, 2022). Children and youth in South Sudan are particularly vulnerable to the effects of climate change; not only their education but also their health and protection are threatened by extreme weather events (UNICEF, 2021c).

Table 2.1 South Sudan's INFORM risk profile, 2022

Variable	Trend		Rank
	2014	2022	(2022)
INFORM Risk	**7.8**	**8,5**	**2**
Hazards and exposure	7.2	7.3	17
Earthquake		2.8	
Flood		7.1	
Drought		3.5	
Epidemic		7.3	
Conflict		9	
Vulnerability	7.3	9	1
Lack of coping capacity	9	9.4	1

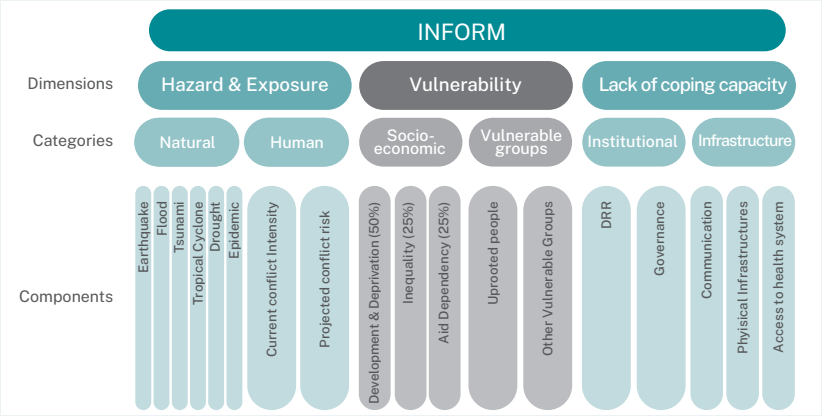
Source: Elaborated by the authors based on (European Commission, 2022).

8 Each dimension is scored from zero to 10, with higher values indicating a higher level of risk (for more information see BOX 2.1)

9 According to (FAO, 2019, p. 2) '90% of people in South Sudan rely on agriculture and livestock for their livelihoods'.

Box 2.1: INFORM RISK Index

The INFORM Risk Index identifies the countries at a high risk of a humanitarian crisis that is more likely to require international assistance (European Commission, 2021). This index provides disaster risk profiles of 191 countries and includes the following dimensions: 1) hazards and exposure, 2) vulnerability, and 3) lack of coping capacity. Each dimension is scored from 0 to 10, with higher values indicating a higher level of risk. The country with the highest risk is ranked first (Somalia in 2023).



Source: (European Commission, 2021)

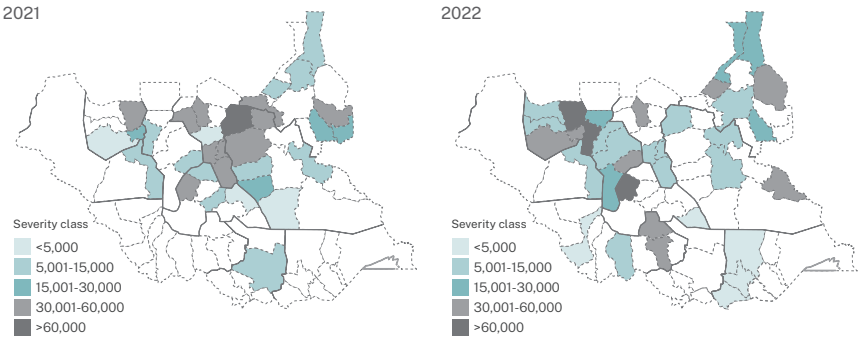
To better unpack the very nature and type of risks in the current context in South Sudan, it is important to note that the most significant risks identified in the country for 2023 are floods, drought, violence, and conflict[10] (OCHA, 2022e).

2.1.1 Floods: Intensifying flooding events with widespread impacts on agricultural yields and livelihoods

In the last four years, South Sudan has experienced more frequent and intense flooding. South Sudan's exposed flood-plains and Nile Basin location make the country particularly vulnerable to flooding (International Crisis Group, 2022, para. 7). Floods in South Sudan typically occur between July and September, which is a period of heavy rainfall in most parts of the country (World Bank, 2022), and recede in November and December. However, in recent years floodwaters have not been receding in many places, exacerbating their impact on the South Sudanese population, and increasing the country's vulnerability to this event. Unity, Jonglei,

10 Other risks include economic deterioration and disease outbreaks as a result of flooding and/or poor sanitation (OCHA, 2022e).

Figure 2.1 Regions affected by floods in 2021 and 2022



Source: (OCHA, 2022e).

and Upper Nile states are frequently and severely affected by floods. In 2021, 80% [11]of the total number of people affected by floods in South Sudan lived in these states (OCHA, 2021). Yet, in recent years, the country has experienced widespread flooding and a geographical expansion of affected areas. Some areas that were not affected in 2021, including Eastern Equatoria and Western Equatoria states, also experienced flooding in 2022 (OCHA, 2021: 2; International Crisis Group, 2022). In terms of drivers of intense and more widespread flooding in recent years, it is important to highlight that abnormally heavy flooding in the country has been due to not only high levels of water upstream from the neighbouring countries and increased local precipitation but also to the lack of river system management (OCHA, 2022, 2022b).

Floods have led to displacement, food insecurity, and conflict in the country. According to FAO (2021), in 2021 floods 'killed nearly 800, 000 livestock and destroyed more than 37,000 tonnes of crops in the country'(FAO, 2021a, para. 1) thus increasing the risk of food insecurity, an issue that remains of great concern in the country: approximately 75% of the population is facing severe food insecurity, the highest figure since independence (WFP, 2022b). In addition, according to the International Crisis Group, (2023, para. 20), 'rising waters have also sent pastoralists fleeing south, where their presence has increased tensions and contributed to violence in the Equatoria region'.

2.1.2 Droughts: Ever-rising temperatures threatening human development

Droughts have severely affected Western and Central Equatoria states in recent years. In addition to floods, droughts also pose a considerable threat to South Sudan. The country has a tropical climate with average temperatures normally above 25°C (World Bank, 2022a). As in many other parts of the world, average

11 More than 835,000 people were affected by flooding in 33 of 78 counties in 2021.

Box 2.2: Drought Indices

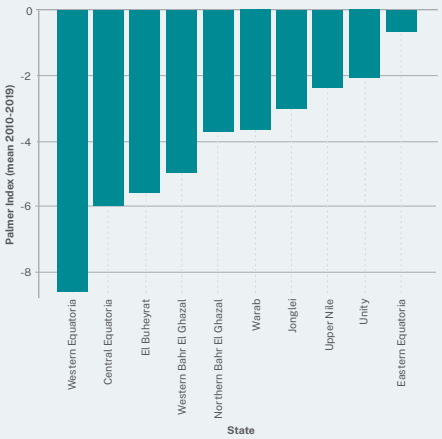
Palmer Drought Severity Index (PDSI): The Palmer Drought Severity Index (PDSI) uses temperature and precipitation data to estimate relative dryness. The magnitude of PDSI indicates the severity of the departure from normal conditions.

- A PDSI value >4 represents very wet conditions, while a PDSI <-4 represents an extreme drought (NOAA, 2022)

The Standardized Precipitation Index (SPI) The SPI is a rainfall anomaly index, meaning it compares the rainfall during a given time interval with the long-term rainfall patterns. The SPI varies mostly between -3 and +3, with negative values for drier-than-average conditions and positive for wetter than average. WFP (2022) used the following criteria to determine drought-affected counties in 2022:

- Severe Drought: More than 50% of the county with SPI-3 < -1.5
- Intense Drought: More than 50% of the county with SPI-3 < -1
- Moderate Drought: More than 33% of the county with SPI-3 < -1

Mean Palmer Drought Severity Index by state, 2010–2019



Source: Elaborated by the authors.

Standardized Precipitation Index, 2022

State	County	Level
Western Equatoria	Mundri West	SEVERE
Western Equatoria	Maridi	SEVERE
Western Equatoria	Mundri East	SEVERE
Western Equatoria	Ibba	SEVERE
Western Equatoria	Yambio	SEVERE
Western Equatoria	Mvolo	SEVERE
Western Equatoria	Nzara	INTENSE
Western Equatoria	Ezo	INTENSE
Central Equatoria	Yei	SEVERE
Central Equatoria	Kajo-keji	SEVERE
Central Equatoria	Lainya	SEVERE
Central Equatoria	Juba	SEVERE
Central Equatoria	Morobo	SEVERE
Central Equatoria	Terekeka	INTENSE
Eastern Equatoria	Magwi	SEVERE
Eastern Equatoria	Torit	SEVERE
Eastern Equatoria	Ikotos	INTENSE
Eastern Equatoria	Lafon	MODERATE
Unity	Mayom	INTENSE
Unity	Mayendit	INTENSE
Unity	Leer	INTENSE
Unity	Rubkona	INTENSE
Unity	Abiemnhom	INTENSE
Unity	Panyijlar	INTENSE
Unity	Koch	MODERATE
Warrap	Tonj East	INTENSE
Warrap	Tonj North	MODERATE
Warrap	Gogrial East	MODERATE
Warrap	Twic	MODERATE
Lakes	Rumbek North	INTENSE
Lakes	Wulu	MODERATE
Lakes	Awerial	MODERATE

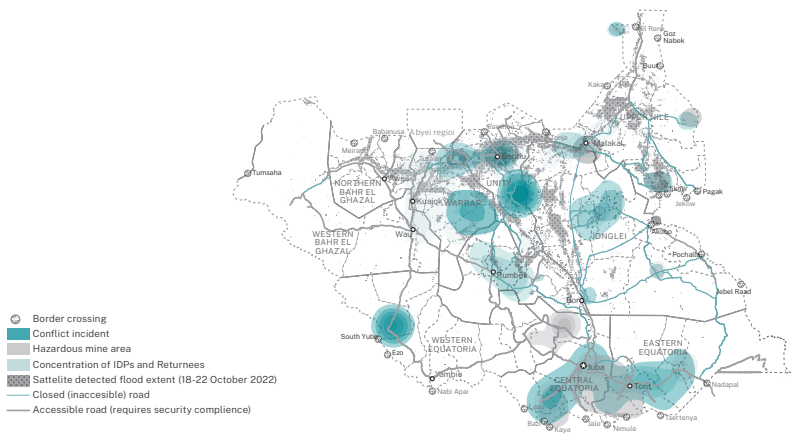
Source (WFP,2022)

temperatures in the country have increased since 1960. Specifically, the average annual temperature in South Sudan increased from 26.95°C in 1960 to 27.88°C in 2021. Estimates, under the very low, low, medium, high, and very high emissions scenarios (CMIP6),[12] suggest that temperatures in the country will continue to rise. Some indices, such as the Palmer Drought Severity Index (PDSI) and the Standardized Precipitation Index (SPI), are frequently used in the literature to determine drought (see *Box 2.2* for more information). Although each index uses a different methodology, they all show that weather conditions in recent years in Western and Central Equatoria states have been the driest on record since 1981, especially in the counties located on the border between these two states. This situation is likely to have a negative impact on crop production and, therefore, on food security (WFP, 2022a).

2.1.3 Conflicts continue to be a major challenge in the country.

Conflict and violence have been a long-standing challenge in South Sudan before and after independence. In particular, the outbreak of civil war in December 2013 and July 2016 severely affected the South Sudanese population and reversed the development gains the country had made (World Bank, 2022b). This situation also led to an increase in humanitarian aid. Most fatalities were recorded in Unity

Figure 2.2 Humanitarian risk analysis as of September 2022



Source: (OCHA, 2022e).

12 'The Coupled Model Intercomparison Project (CMIP) is a climate modelling activity from the World Climate Research Programme (WCRP) which coordinates and archives climate model simulations based on shared model inputs by modelling groups from around the world' (IPCC, 2018, p. 55). The CMIP6 introduces the Shared Socio-economic Pathways (SSPs). These scenarios were used in the latest Intergovernmental Panel on Climate Change (IPCC) Assessment Report (AR6).

State in 2013 and in Central Equatoria in 2016. Despite the signing of the Revitalised Agreement on the Resolution of Conflict in South Sudan (R-ARCSS) in 2018, sub-national fighting has continued. In 2022, violence was recorded in Upper Nile State and has since spread to the northern areas of Jonglei and Unity states. Approximately 20,000[13] people have been displaced, mostly women and children. In the same vein, Warrap State has also suffered inter-communal violence in 2022 and Equatoria states have recently been affected by migration-related conflicts, as mentioned above (UN, 2022). *Figure 2.2* shows (in red) the conflict incidents recorded in 2022, as well as the hazardous mines area (in yellow).

2.1.4 Dimensions of disaster risk and identification of the most risk-prone states in South Sudan

Unity is the most at-risk state in South Sudan. Although several counties/states in South Sudan are located in flood- or drought-prone areas, the severity of the impacts of these events depends not only on the (1) hazards themselves, but also on the (2) vulnerability and (3) exposure of people and places to these events (IPCC, 2012; UNDRR, 2022). In other words, not all hazards result in disasters. A disaster is a result of the interaction between these three factors. In 2020, the World Bank created a composite index for South Sudan, called the 'Disaster-Fragility Index' (see *Annex* 2), which considers these three factors: 1) the hazards assessed were floods, droughts, extreme heat, wildfires, and earthquakes. Regarding exposure, the authors calculated an index that 'estimates the total amount of elements at risk (population and physical assets) at the state level, which are susceptible to suffer losses due to these natural hazards'[14] (The World Bank, 2020, p. 19) 3). Regarding vulnerability, the index was calculated by combining socio-economic and fragility, conflict, and violence (FCV) variables.[15] The exposure and vulnerability indices were subsequently normalized and combined into the 'Disaster-Fragility Index' (DF) using the geometric mean. Thus, this index is ranked from 0 to 1, with higher values indicating a higher level of risk. According to this index, Unity[16] (score of 0.6) is the most at-risk state in South Sudan, as it is not only highly exposed but also highly vulnerable to the hazards analysed in the index. In particular, and as highlighted above, the population living in this state has been severely affected by flooding and conflict. Other states that also scored high on this index are Northern Bahr El Ghazal, Jonglei, Upper Nile, and Warrap, with scores of 0.58, 0.56, 0.54, and 0.51, respectively (for more information on this index, see World Bank, 2020).

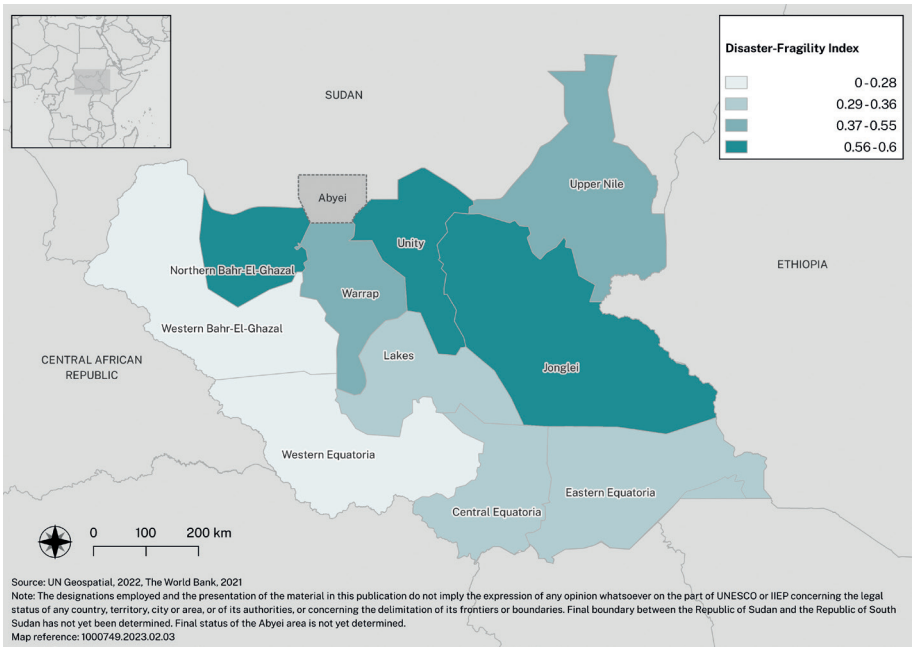
13 During the period from September to December 2022.

14 'For each hazard type, the exposure score is calculated by multiplying the hazard intensity with the total elements at risk at the state level. The exposure score is normalized between 0 and 1' (The World Bank, 2020, p. 19)

15 Including indicators related to food security, displacement, and conflict fatalities.

16 For example, flood simulations for this state indicate that about 1,870 settlements, 81 health facilities, and 97,945 buildings fall in the flood-prone area (World Bank, 2020).

Figure 2.3 Disaster – Fragility Index



State	Exposure Index	Vulnerability Index	DF Index
Unity	0.40	0.91	0.60
Northern Bahr El Ghazal	0.48	0.70	0.58
Jonglei	0.38	0.81	0.56
Upper Nile	0.52	0.56	0.54
Warrap	0.34	0.74	0.51
Eastern Equatoria	0.34	0.41	0.37
Central Equatoria	0.37	0.32	0.34
Lakes	0.16	0.68	0.32
Western Bahr el Ghazal	0.14	0.39	0.23
Western Equatoria	0.07	0.13	0.10

Source: (The World Bank, 2020).

2.2 Quantifying the impact of disasters and conflict on education

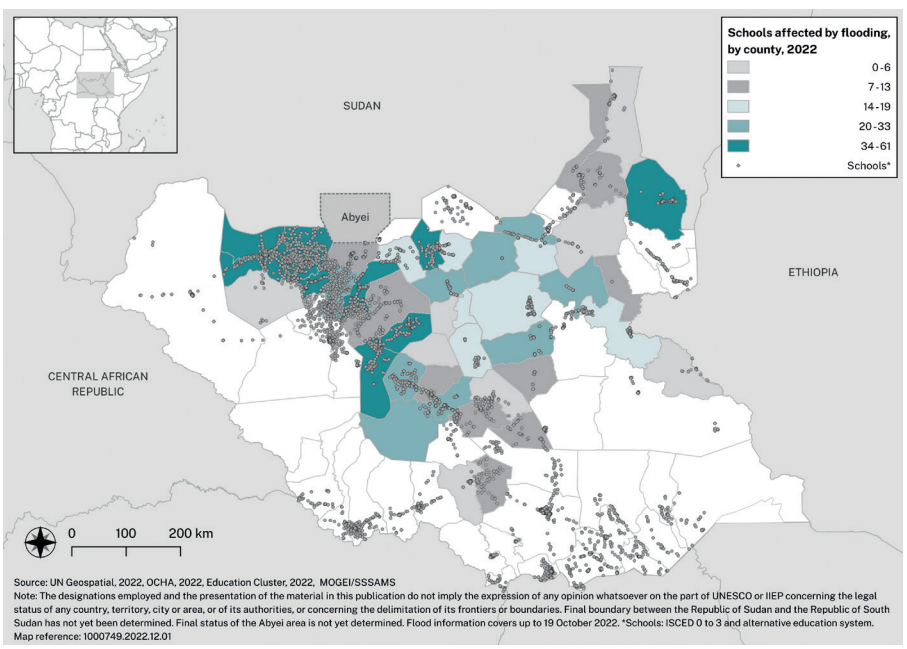
The previous section identified the main hazards in the country, as well as the states most at risk. These hazards have already affected children's education in South Sudan *directly*; they have put children's and teachers' lives and well-being at risk, and destroying education infrastructure, and *indirectly* through impacts associated with food insecurity, and forced migration, among others. Although more attention has been paid to the former, literature suggests that indirect impacts could have much more significant effects on education (UNICEF, 2019), though measuring these effects is complex and least developed. The next section describes in detail how these hazards may affect children's education in South Sudan in terms of access, quality and learning, equity, and management.

2.2.1 Impacts on access: Reduced opportunities for education

2.2.1.1 Direct impact: School closures and other supply-side aftermaths

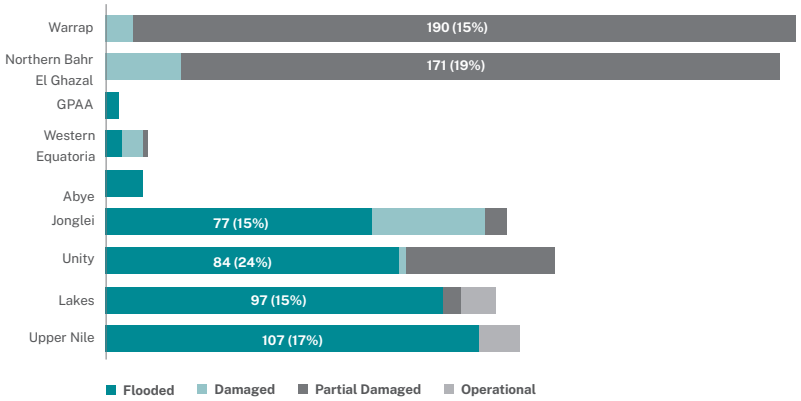
Conflicts and disasters often lead to the closure of schools in South Sudan. According to the 2021 Education Census Database, the country has 7,657 schools.[17] Yet, 18% of them (1,370) were not operational in 2021. Some of the reported reasons for school closures were

Figure 2.4 Number of schools affected by flooding, by county, 2022



17 Including AES, PPR, PRI, SEC

Figure 2.5 Number and percentage of schools affected by flooding, by state (2022)



Source: Elaborated by the authors based on information from the Education Cluster.

conflict (46.20%) and disasters (27%).[18] It is important to note that most schools in South Sudan are in areas prone to conflict, drought and flood (see *Annex* 3). Regarding the latter, the unprecedented floods of the last four years have severely damaged school infrastructure. In 2022, 893 schools were affected by floods (as of October 2022), 'a 20% increase of the number of schools affected by flooding in 2021, disrupting the education of some 381,495 children' (OCHA, 2022e, p. 21).

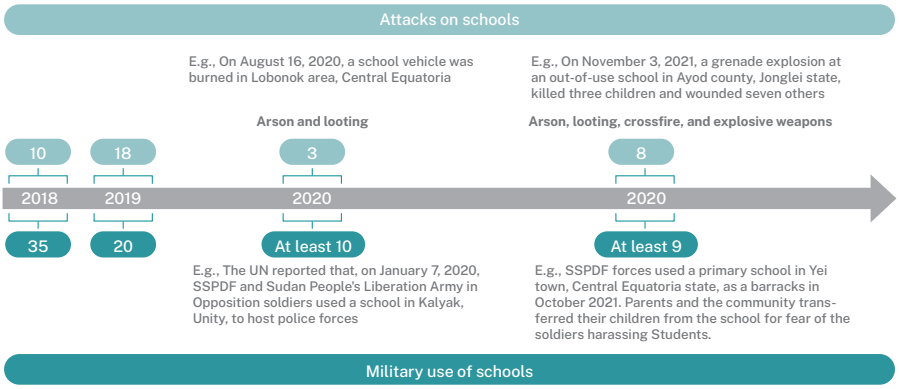
Schools located in Unity, Upper Nile, and Jonglei states are frequently affected by floods. Although most schools affected by floods in 2022 are in Warrap (198) and Northern Bahr El Ghazel (193), many of these schools suffered *partial damage*, 190 (96%) and 171 (89%), respectively. In contrast, 107 (90%) of the schools affected by flooding in Upper Nile State *were severely affected,*[19] representing 17% of the total number of schools located in this state. A similar pattern is observed in Lakes, Jonglei, Unity, and Upper Nile states. Historical flood data show that schools in Unity, Jonglei, and Upper Nile were also severely affected in previous years (UNICEF, 2021a).

Attacks on schools continue to be a concern in the country. In 2021, GCPEA collected eight reported incidents of attacks on schools. These attacks were related to arson, looting, crossfire, and explosive weapons (see *Figure 2.6*) (GCPEA, 2022). According to OCHA, (2022e, p. 55) 'conflict and violence led to school closures and affected the education of 1,160 pre-primary and 2,882 primary school children'. It is important to note that conflict has also severely affected TVET schools. According to the Ministry of Gender, Child, and Social Welfare (MGCSW) mapping, in 2020, the number of non-operational TVET schools exceeded the number of operational

18 Other reasons include a lack of learners: 424 (30.95%) and a lack of teachers 583 (42.55%).

19 In most cases, the schools were reported flooded, that is, under water.

Figure 2.6 Attacks on schools, military use of schools



Source: Elaborated by the authors based on GCPEA, 2022

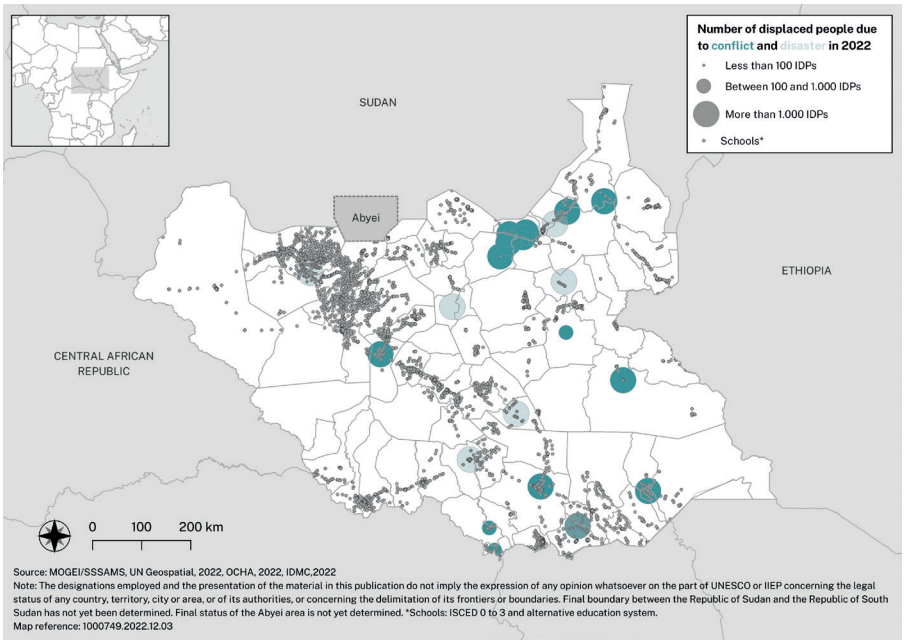
ones (157 vs 62). Survey respondents indicated that conflict was one of the leading drivers of the closures. In some cases, even if schools are not destroyed or damaged, children cannot go to their schools because they are occupied by people who have been forced to leave their homes (OCHA, 2022f). In 2021, 17 schools were used as temporary shelters (OCHA, 2022d). In addition, MoGEI reports also indicate that more than 150 schools have been used for military purposes since 2013 (MoGEI and Save the Children, 2022).

2.2.1.2 Indirect impact: multiple pathways jeopardizing access to education

Conflicts and disasters have increased the risk of forced migration, child labour, child marriage, and recruitment. As mentioned previously, the majority of the South Sudanese population relies on agriculture and livestock for their livelihoods (FAO, 2019). As irrigation techniques remain limited, households depend highly on rainfall for crop production, which increases their vulnerability to climate change. In addition, changes in rainfall patterns and increased temperatures[20] decrease crop yields. Extreme events, such as heavy flooding, have also destroyed crops and killed thousands of livestock. As families' main source of income is significantly impacted, long-term investments such as those made in education may be cut first (PASEC, 2017). In the short term, this situation will push affected families to look for other sources of income, including migrating. According to IDMC, (2022) floods and conflict triggered 506,000 and 429,000 internal displacements in 2021, respectively. 'Across the country as a whole 527,000 people were living in displacement as a result of *disasters* at the end of 2021, four times the figure for December 2020,

20 Literature has shown that there is a non-linear relationship between temperatures and improvements in crop growth: 'when daytime temperatures exceed a certain crop-specific level' (FAO, 2017, p. 41) crop productivity is severely affected.

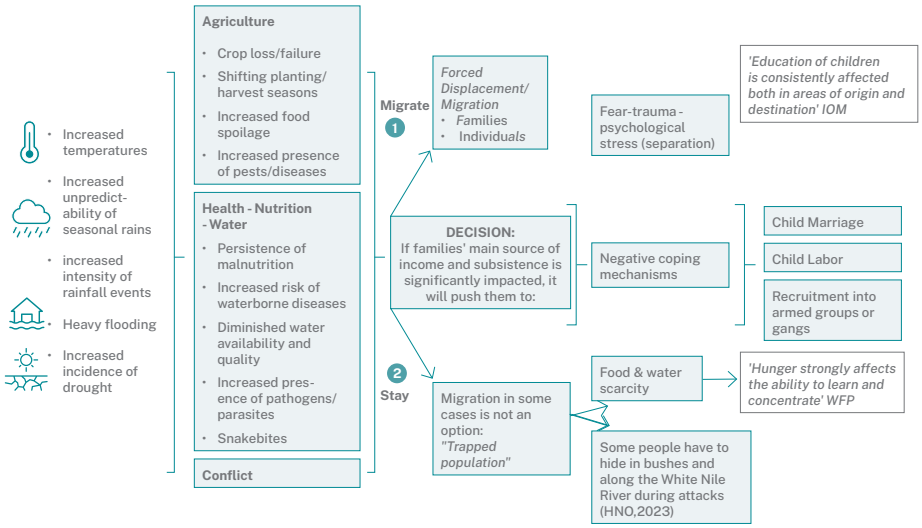
Figure 2.7 Displacement associated with conflict/disasters, 2022



which suggests a trend toward increasingly *prolonged displacement*' (IDMC, 2021, para. 5). *Figure 2.7* shows the number of displacements by region and type of displacement (conflict and flood) in 2022, as well as the location of schools.

Involuntary migration can take different forms; either entire families migrate in search of livelihoods or children are left behind with the elderly or other caretakers. Regardless of the modality, children and adolescents in South Sudan are disproportionately affected. Literature has shown that sending children to work is a coping strategy that households use when their income is severely affected by weather shocks (Jacoby and Skoufias, 1997; Dillon, 2013; Ortiz, 2015). Given that children in South Sudan are required to attend school only until the age of 13 and that the minimum working age is 14, children between the ages of 13 and 14 are the most vulnerable to the worst forms of child labour, including use in armed conflict and forced labour in cattle herding (Bureau of International Labour Affairs, 2021). Food insecurity has also led South Sudanese households to adopt other negative coping mechanisms such as child marriage and recruitment into armed groups or gangs, thus affecting school enrolment and attendance (OCHA, 2022e). Regarding child marriage, UNICEF estimates suggest that one in two young women in South Sudan is married off before the age of 18 (Human Rights Council, 2022).

Figure 2.8 Indirect impact of disasters and conflicts on education in South Sudan



Source: Elaborated by the authors.

Extreme weather events have also affected the health and well-being of children. There is a large body of literature suggesting that rising temperatures, as well as increased rainfall and flooding, may increase the spread of vector and waterborne diseases, such as malaria,[21] cholera, and diarrheal diseases, among others (World Bank, 2021), which in turn may increase absenteeism among students. In addition, flooding has also led to an increase in snake bites, especially among children and women (Save the Children, 2022).

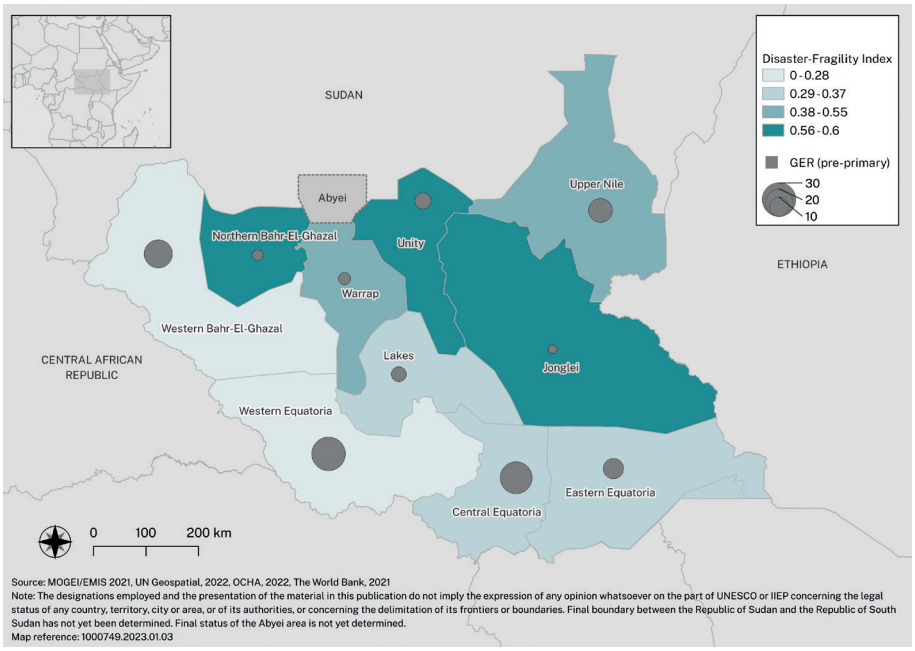
2.2.2 Impacts of conflict and disasters on quality and learning: Deteriorating education systems outcomes

Extreme events can also lead to teacher absenteeism. It is well established that teachers are the key driver of quality education (UNESCO, 2019). However, 43% of schools in South Sudan identified teacher shortage as one of the reasons for school closures. In addition, a study conducted by UNICEF in 2021 found that one of the factors influencing teacher attendance is weather conditions: 'heavy rains during the wet season cause rivers to flood into roads, preventing teachers (who have long distances to travel to school by foot) from coming to school' (UNICEF, 2021d, p. 36).

Moreover, the academic calendar starts in February and ends in December, and as mentioned above, heavy floods occur frequently between July and September

21 It is important to highlight that 'malaria continues to be the leading cause of morbidity among children under age five' (OCHA, 2022e, p. 59)

Figure 2.9 Disaster fragility index and GER (pre-primary)



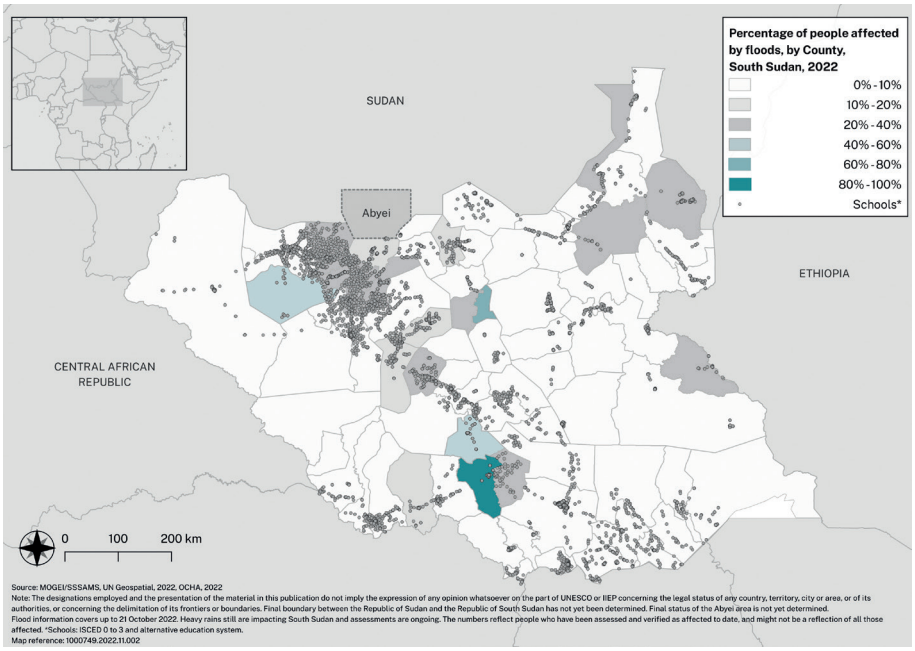
and recede in November and December. However, in recent years floodwaters have not been receding. In some cases, during this period schools must close for several days or even months. Yet, prolonged school closures are likely to cause students to regress academically (UNESCO, 2020) or drop out of school. Droughts and floods have also increased the risk of food insecurity, which in turn has a negative impact on learning. According to WFP (2021), hunger strongly affects children's ability to learn and concentrate in class. Extreme weather events and conflict can also generate psychological injuries, which could affect, among others, children's well-being and academic performance (McMillen et al., 2002; UNICEF, 2019)

It appears that the most at-risk states have very poor educational indicators. For example, the GER (pre-primary) in Jonglei, one of the most at-risk states in South Sudan and one frequently affected by conflict and flooding, is 2%, compared to 30% in Western Equatoria (the least at-risk state). Similar patterns are also observed in the GER in primary and secondary education. It is also important to note that the highest rates of school-age population per school are found in the highest risk states (for more detailed information, please refer to *Chapter 3*).

2.2.3 Impact on management: hampering the production of primary data

Disasters and conflicts negatively impact the management of the education system. Most of the ESA indicators have been calculated using the Annual schools Census, 2021. Although this is the most recent data source available for the education sector, it does not provide information on all schools in South Sudan. Specifically, due to conflict (e.g., in Nagero, Tambura) and flooding (e.g., in Mayardit, Leer), some counties were not included in the annual school census, which may underestimate the results, especially when conducting the risk analysis, as the most at-risk counties are not included in the analysis. *Figure 2.10* shows, for example, the percentage of people affected by flooding by county in 2022 and the location of schools with the most affected regions represented by darker colours. In 2022 heavy flooding affected 62% of Leer county's population. Although this county has approximately 39 schools,[22] they are not represented on the map because EMIS enumerators were unable to collect data in this county, thus

Figure 2.10 Percentage of people affected by floods by county, 2022



22 It is important to note that MoGEI officials provided this information.

increasing barriers to implementing effective crisis-sensitive educational planning. Flooding and conflict have also resulted in damage and loss of important school files and records (e.g., pedagogical and student files), as well as educational material. This points to the need for alternative data collection methods and the importance of safeguarding school files and records in weather-proof containers.

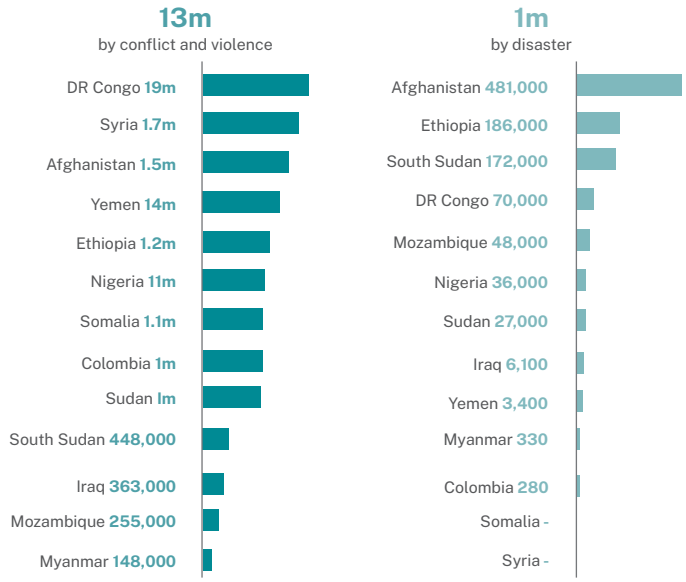
2.2.4 Impact on equity: Vulnerable groups are penalized by conflict and disasters

Marginalized groups, including women and girls, displaced populations, and learners with disabilities, are the most severely impacted by crises. According to the Humanitarian Needs Overview 2023, 'men and boys are likely to be at risk of recruitment into armed forces. Therefore, they refrain from engaging in essential activities, such as collecting water and food, to avoid being targeted by armed actors' (OCHA, 2022e, p. 13). The country's cultural norms, beliefs, and attitudes[23] also contribute to the fact that, as in many sub-Saharan African countries, girls and women are responsible for these activities. Because of climate change, girls and women must walk longer distances to find drinking water, food, and so forth, which exposes them to a high risk of sexual violence, including rape. Conflict-related sexual violence against women and girls is widespread and systematic throughout South Sudan. In 2022, many of the verified cases of conflict-related sexual violence occurred in Southern Unity State (OCHA, 2022e), which, as mentioned above, is the most at-risk state in the country. A recent report conducted by the (Human Rights Council, 2022, p. 7) states that 'where a woman or girl is placed at risk of sexual violence including rape, they may still be further punished or blamed by family members including through violence, as rape may affect the family's prospects of receiving a dowry price'. It is also important to mention that when girls collect water or food, they often miss school. Women and girls also suffer disproportionately from hunger and food insecurity.

People with disabilities are also severely affected by conflicts and disasters. It is important to note that migration is not always an option for the most vulnerable population. People who want to migrate but cannot do so are known as a 'trapped population'. They struggle not only to find food and clean water but also to survive. This is currently the case in Upper Nile State, where some elderly or disabled people, have been unable to flee and have had to hide in the bushes and along the White Nile River during attacks (UNHCR, 2022). IDPs also face many challenges related not only to language barriers, but also to stigma, psychological trauma, and safety concerns (IDMC, 2022a). The estimated number of school aged IDPs in South Sudan in 2021 due to conflict and disasters was 448,000 and 172,000, respectively (see *Figure 2.11*). *Chapter 3* provides more detailed information on IDPs' education.

23 'While the Constitution guarantees equality for women, substantive equality remains elusive for South Sudanese women who remain marginalized and subject to tradition and patriarchal constraint' (Human Rights Council, 2022, p. 7).

Figure 2.11 Estimated number of school aged IDPs (as of the end of 2021)



Source: (IDMC, 2022a)

2.3 South Sudan's capacity to mitigate the effects of disasters and conflicts on education

The previous section described how extreme weather events and conflict frequently affect children's education in South Sudan. The next section describes and analyses the institutional, organizational, and individual capacities of South Sudan to mitigate the effects of such phenomena on the education sector.

2.3.1 Institutional capacities: Need to ensure the effective implementation of current norms, strategies, and plans

As one of the countries that are most vulnerable to climate change, South Sudan became a party to the Rio Conventions (UNFCCC, UN Convention on Biological Diversity, UN Convention to Combat Desertification) on 18 May 2014, ratified the Paris Agreement on climate change in April 2016,[24] and submitted its second Nationally Determined Contribution (NDC) in 2021. In 2021, the country also developed its first national adaptation plan (NAP) for climate change. This plan consists of three pillars: 1) building climate-resilient communities, 2) building a climate-resilient economy and development trajectory, and 3) building a climate-resilient environment and ecosystem. The second NDC identifies 14 sectors that need to be prioritized and includes some mitigation and adaptation strategies for each sector. Although it is globally recognized that education is not only *highly vulnerable* to climate change impacts, but also plays a *critical role in accelerating climate action*,[25] the sector was not included in this list (see *Figure 2.12*), and it seems that, as in other parts of the world, education has received little attention in key climate change debates.

Although in recent years the MoGEI has developed some guidelines/standards to mitigate the impacts of disasters and conflict, it is important to ensure their implementation is effective. In 2015,

Figure 2.12 Sector prioritization in South Sudan's second Nationally Determined Contribution (NDC)

1. Agriculture, livestock and fisheries
2. Infrastructure (construction and buildings)
3. Forestry
4. Biodiversity, ecosystem and sustainable wetland management
5. Electricity
6. Water
7. Waste
8. Tourism and recreation
9. Mining and quarrying
10. Transport
11. Industry
12. Petroleum, chemicals and non-metallic mineral products
13. Health
14. Disaster risk management

Source: NDC, South Sudan 2021

24 This year the country also developed its National Adaptation Programme of Actions (NAPA) to Climate change.

25 Article 6 of the UN Framework Convention on Climate Change and article 12 of Paris Agreement highlight the critical role of education in accelerating climate action.

South Sudan endorsed the Safe Schools declaration, which 'is an inter-governmental political agreement that outlines a set of commitments to strengthen the protection of education from attack and restrict the use of schools and universities for military purposes'(MOGEI and Save the Children, 2022). In 2022, MoGEI, in collaboration with Save the Children and Charity and Empowerment Foundation, published an interactive guide to facilitate the dissemination of the Safe Schools Declaration guidelines. However, there appears to be a lack of awareness of these guidelines in all 10 states of South Sudan and as mentioned above, schools continue to be used for military purposes. In the same vein, in 2012, the Education Cluster published the Contextualized *Minimum Standards for Education in Emergencies* in South Sudan[26] and the *Teacher's Code of Conduct for Emergency Situations*. The latter describes, among other things, how teachers can support each other during emergencies and contribute to post-emergency recovery. As extreme weather events are increasingly becoming the norm rather than the exception, it would be important to update these documents, increase awareness of them, including through teacher training on these minimum standards, and ensure their effective implementation.

The lack of disaster risk reduction (DRR) strategies remains a major challenge in the country. Disaster Risk Management (DRM) includes four dimensions – prevention, preparedness, mitigation, response, and recovery. In South Sudan efforts have focused on the last dimension. Although in recent years DRM has been a priority in the country, and some policies such as the disaster management policy of South Sudan, as well as the NDC, NAP and NAPA, highlight the importance of implementing preventive measures and strengthening drought and flood early warning systems 'there seems to be a lack of action in this area, primarily due to a lack of capacity and unavailability of funds for DRM in South Sudan (MoEF, 2021, p. 26).

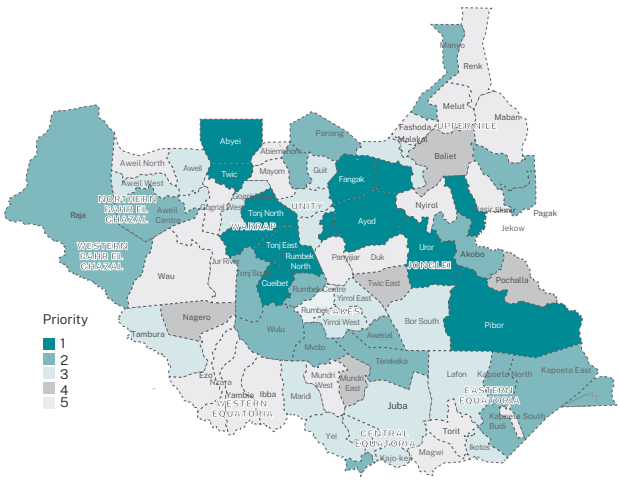
In terms of education, efforts have also focused on disaster response and early recovery. The Education Cluster (EC) is responsible for ensuring that 'education partners respond to emergencies and meet the needs of affected population' (EC, 2019). This cluster is led by MoGEI (Partners Coordination Unit), and Save the Children and UNICEF are the co-lead agencies of the cluster. Since South Sudan has experienced more extreme weather events in recent years, its needs are overwhelming the humanitarian response capacity. As of 31 October 2022, more than 427,000[27] children needed emergency education support and the Education Cluster reached only 23,540 children (OCHA, 2022c). It is important to mention that most of the response has been provided outside the flooded areas, as floodwaters have prevented partners from accessing some of the most affected areas. *Figure 2.13* shows the geographic prioritization of the Education Cluster.

Education emergency response includes, for example, the provision of temporary

26 This document was elaborated based on The Inter-Agency Network for Education in Emergencies (INEE) Minimum Standards for Education: Preparedness, Response, Recovery.

27 Children affected by floods.

Figure 2.13 Education Cluster geographical prioritization



Source: Education Cluster, 2022

learning spaces, distribution of teaching and learning materials, School-in-a-Box,[28] among others. Following a disaster, schools can request funds to repair, or rebuild schools or provide teaching materials through grants. In some cases, this process can take more than a year, resulting in significant losses in terms of learning achievements. While strategies such as School-in-a-Box are very important to ensure the continuation of children's education, they are part of the emergency response and, therefore, only provide short-term solutions. In the current context of climate change, there is an urgent need for the education sector to develop a crisis and risk management strategy that includes prevention and adaptation strategies, such as the development of contingency plans in all schools. Such measures can reduce the impact of risks and contribute to ensuring the continuity of education. According to (Pew, 2018), it is estimated that USD 1 invested in risk reduction saves USD 4–7 in recovery. However, in South Sudan, there is a lack of funding allocated to disaster risk reduction in the education sector.

2.3.2 Organizational capacities: Gaps in planning and lack of inter-ministerial coordination remain a major challenge in the country.

Crisis and risk management in the education sector will require a holistic and cross-sectoral planning approach. Climate change is a complex phenomenon which can affect several sectors at the same time. When ministries responsible for education, environment, and sustainable development collaborate, they can

28 This kit contains 'supplies and materials for a teacher and up to 40 students. In addition to the basic school supplies, such as exercise books, pencils, erasers, and scissors, the kit also includes a wooden teaching clock, wooden cubes for counting, a wind-op/solar radio and a set of three laminated posters ' (UNICEF, 2021b, para. 2)

identify the different pathways through which climate change could affect education, and develop and implement timely, flexible, and effective solutions to strengthen the resilience of the education systems. In South Sudan, however, there appears to be a **lack of coordination between MoGEI and the Ministry of Environment and Forestry (MoEF), as well as the Ministry of Humanitarian Affairs and Disaster Management.** The former is the main agency responsible for addressing the challenges of climate change in the medium and long term. In addition, there is no unit or department within MoGEI responsible for disaster risk reduction and/or climate change.

The lack of data on DRR increases the barriers to implementing effective crisis-sensitive educational planning. Crisis-sensitive planning encompasses the planning that takes place before, during, and after crises. Thus, under an ideal scenario, it would be important to have data on all four dimensions of disaster risk reduction (prevention, preparedness, mitigation, and response and recovery). IIEP (2023), assessed some of the key tools available in South Sudan, including the annual school census, to see the extent to which the data available in the country allows for the implementation of effective and crisis-sensitive education planning. The review of data collection tools identified several strengths, but also weaknesses. More specifically, it appears that the data available in South Sudan focus on response and recovery and less on prevention and preparedness. In addition, data quality remains a major concern due to several factors such as the use of divergent data collection tools, and weak human and IT capacities, among others (for more detailed information, see the *Technical Review of Crisis and Risk Related Educational Data Collection Tools, Processes, and Underlying Indicators Report*).

2.3.3 Individual capacities: Lack of training and materials on DRR and climate change

Education is not only a victim of climate change but also has a critical role to play in accelerating climate action. Education has the power to encourage necessary changes in attitudes, practices, and behaviours at institutional, community, and individual levels to develop values and enable actions to transition society towards sustainable futures. For education planners, mitigation[29] measures include the integration of climate change in school curricula, its effective implementation in the classroom, and the provision of continued support and training on climate change to teachers and school staff.

One of the key objectives of the South Sudan National Curriculum Framework highlights the importance of promoting environmentally responsible members of society who: 1) are committed to sustainable forms of development; 2) are aware of the fragility of the environment, and

29 In this document climate change mitigation refers to strategies put in place to facilitate the transition to a green economy.

the importance of environmental sustainability to life and prosperity; and 3) appreciate the need for everyone to work together to preserve the environment for the common good and future generations. In the same vein, the National General Education Policy (2017–2027) also highlights the importance of raising awareness of the impacts of climate. However, climate change education is only included in the primary school curriculum and there is a lack of training (in-service, pre-service training) and teaching materials on DRR and climate change issues. *Box 2.3* provides examples of activities carried out by some countries to promote climate change education.

Box 2.3: Mainstreaming climate change trough and in education.

Malawi ratified the United Nations Framework Convention on Climate Change in 1994, as well as the Kyoto Protocol and the Paris Agreement in 2001 and 2017, respectively. In recent years, Malawi has established different strategies or frameworks to address climate change through education and for this reason, the country is recognized as one of the leaders in climate change education (UNITAR, 2021a). In particular, in 2013 the country developed its National Climate Change Learning Strategy (NCCLS), which was updated in 2021. This updated strategy aims to address three key pillars 1) human capacity building; 2) institutional capacity building; and 3) climate change financing to support teachers and integrate climate change education into the school curricula. The country also developed a sourcebook for primary and secondary school teachers.

In the same vein, in 2021 Zimbabwe published its National Climate Change Learning Strategy 2020–2030 to promote climate change education in both schools and non-formal educational settings.

To raise awareness of climate change and encourage climate action, a climate change radio programme entitled *'Our Changing Climate – Our Time to Act!'* was broadcast in Malawi, Zambia, and Zimbabwe. Each country had 36 radio episodes and six television episodes in total. 'This new approach in mainstreaming climate change through radio programmes is an effective way of providing information that can increase knowledge and change attitudes and behaviours of citizens. It particularly offers opportunities where internet connection is not stable'(UNITAR, 2021b, para. 5).

2.4 Conclusion: Continued conflict and the increased intensity and frequency of extreme weather events threaten children's education in South Sudan

The South Sudanese population is frequently affected by conflict and disasters. These two phenomena have severely impacted children's education, both directly – by putting children's and teachers' lives and well-being at risk and destroying education infrastructure – and indirectly through impacts associated with food insecurity, land loss, forced migration, child labour and child marriage, among others. The country is also highly vulnerable to the effects of climate change. If no action is taken, existing vulnerabilities could be exacerbated, and the country's coping capacities weakened. In particular, the effects of climate change could increase the risk of conflicts and disasters, thus intensifying their negative impact on education.

Most schools in South Sudan are in areas prone to conflict, drought, and floods. Weak infrastructure, coupled with a lack of disaster risk-reduction measures and contingency plans, often forces schools to close for days or even months, negatively impacting children's learning. In particular, the most vulnerable students are at high risk of dropping out of school or falling behind academically.

Efforts in South Sudan have focused on disaster response and early recovery. However, the emergency response has been minimal and insufficient compared to the needs (OCHA, 2022c). These needs are expected to increase if long-term responses that address the root causes of the education system's vulnerability to climate change are not implemented. In terms of data, much of the information available in South Sudan focuses on response and recovery and less on prevention preparedness, and mitigation, thus increasing the barriers to implementing effective crisis-sensitive educational planning.

Chapter 3
Enrolment capacity, access, equity, and out-of-school children

In a context characterized by conflict, natural disasters, a high and growing proportion of the school-age population and socio-economic vulnerability, the education system in South Sudan faces substantial challenges in providing access to primary and secondary education.

This chapter sheds light on the current capacity of the education system in South Sudan to meet the demand and need for the education of eligible children and adolescents. It describes the patterns and characteristics of the education system to clarify its quantitative performance across sub-sectors, in terms of enrolment capacity, coverage of different age groups, obstacles to access to education and completion of cycles, internal efficiency, and exclusion.

First, the chapter provides an overview of the education system to set the basis for the analysis. Second, it evaluates the system's enrolment capacity, emphasizing differences between states, especially those most affected by conflict and natural disasters, and highlights gender inequalities. This analysis is complemented by the characterization of the schooling profiles of students, from access to completion, identifying the major issues of access and retention in the country. Third, the chapter presents the number and proportion of out-of-school children and examines their geographical location and gender.

3.1 Overview of the education system in South Sudan

3.1.1 Policy and legal frameworks

The education system in South Sudan is guided by a series of laws and policy documents that have been adopted since independence. Supreme of all laws and policies is the Transitional Constitution of the Republic of South Sudan 2011, which states that education is a right of every citizen and that it is compulsory and free of charge at the primary level. Additionally, the Constitution asserts that all levels of government shall promote education without discrimination based on religion, ethnicity, gender or disability and other individual characteristics (Republic of South Sudan, 2011).

The General Education Act 2012 (GEA) defines the guiding principles and goals for the education system and provides the general framework for its efficient functioning. The Act incorporates 12 guiding principles, such as free and compulsory primary education to all citizens without discrimination, that education shall promote gender equity throughout its different levels and alternative ways of learning, and that education shall foster development through integration, peace, self-reliance, patriotism, respect for other cultures, and so forth (National Legislative Assembly, 2012).

The policy framework in the country is outlined in the national development strategies and policies. For instance, in the South Sudan Development Strategy 2021–2024, education is a key component of Cluster 3 on services (social development), whose goal is to 'increase support to the social sector for human capital development and protect the vulnerable population, to leave no one behind'. The 2021–24 national development strategy prioritizes the following key interventions regarding education (i) national capacity assessment and surveys, (ii) infrastructure and equipment, and (iii) teachers' education and training curricula.

Specifically, on education, the current education policy framework comprises a series of policy documents published in 2017, starting with the National General Education Policy, 2017–2027, the GEA, and other laws of the republic, as well as international frameworks on education. Another important document is the General Education Strategic Plan 2017–2022, which prioritizes access to the formal education system, complemented by the Alternative Education System (AES), with a focus on inclusion and increasing the quality of education. On more cross-cutting issues, the National Inclusive Education Policy 2020 defines strategic elements for guaranteeing access to education and creating an enabling environment for *all* people.

3.1.2 Education system structure

The general education system in South Sudan comprises formal and non-formal education. Each is further divided into various levels of education or programmes, addressing different target groups and educational challenges, with all levels sharing the common objective of fulfilling the commitment of access to education and instruction to the eligible population in South Sudan. The MoGEI and state ministries are responsible for delivering and managing the system. This section

discusses the structure of the education system in the country, providing details of the formal and non-formal streams and the intersections between them.

3.1.2.1 Formal education

The first component of general education is the formal education system, which functions under a 24-hour system: two years of pre-primary, eight years of primary, and four for secondary. Upon completion, students are expected to have knowledge and a series of skills that allow them to continue to higher education, and most importantly, access opportunities for their development.

The first step in the ladder is pre-school or pre-primary education, whose objective is to provide instruction to develop children's school readiness for primary. According to the Constitution and the GEA, pre-primary education targets children aged 3 to 5 years for a total of two years. This notwithstanding, the Education Census (EC) has included three levels of learning implemented in past data collection processes that are, baby class, middle class, and top class. After completing pre-primary, children are expected to progress to primary education. However, finishing pre-school is not a strict requirement for enrolling in primary.

Primary education constitutes the basic cycle of education in South Sudan. According to the GEA, primary education covers eight years from P1 to P8, targeting children aged 6 to 13. By the end of the cycle, students take the Primary 8 Leaving Examination, which allows them to earn a certificate necessary to enrol in secondary.

The last level of formal education is secondary, which targets students aged 14 to 17 years old. Formal secondary education is delivered in two categories of institutions: academic schools and Technical and Vocational Education Training (TVET) centres. This chapter only focuses on academic schools while TVET centres are discussed in *Chapter 6.* After completing the four years of instruction (from S1 to S4), students must pass the Unified South Sudan Secondary School Certificate examination.

3.1.2.2 Non-formal education

Non-formal education in South Sudan consists of the Alternative Education System (AES). It provides flexible education programmes to various population groups that cannot access the formal

Table 3.1 Summary of the components of the formal education system in South Sudan

Level of education	Target population	Years of instruction	Condition for completion
Pre-school (pre-primary, early childhood education, and others)	3 to 5 aged population	Two	
Primary education	6 to 13 aged population	Eight	Primary 8 Leaving Certificate examination
Secondary education	14 to 17 aged population	Four	Unified South Sudan Secondary School Certificate examination

Source: Authors' elaboration from the General Education Act 2021 and the Constitution, 2011.

education system because of conflict, natural hazards, lack of availability of schools, poverty, and other constraints. AES seeks to address the diverse challenges of providing education for out-of-school children and youth, overaged children in primary schools and illiterate adults, as well as providing opportunities for pastoralist communities (MoEST, 2013). The programmes offered through this system should be free of tuition fees; learning materials should be provided free of cost; and students should not be required to wear uniforms (MoEST, 2013).

After the formalization of the AES in 2002, it has expanded the range of programmes it offers to provide multiple pathways towards creating a literate and educated society. According to the Directorate of the AES, there are five streams currently offered, targeting the school-age population, illiterate adults, pastoralist communities, and current teachers. [30] The current programmes are:

1) The Accelerated Learning Programme (ALP): targets the population aged from 12 to 18 years that either dropped out from lower primary classes or never accessed education and the population from 18 to 30 that formed part of the armed forces. It condenses the eight years of formal primary education into four years.
2) The Community-Based Girls Schools (CGS): targets girls aged eight to 12 in villages without schools. Additionally, boys can access CGS centres, but their proportion should not be higher than 40% of the enrolment. It condenses the first four years of formal primary into three years.
3) The Basic Adult Literacy Programme (BALP): targets the population aged 18 and above that lacks opportunities for literacy and numeracy because of conflict and socio-economic barriers. In four years, learners shall develop literacy skills and learn basic livelihood activities.
4) The Pastoralist Education Programme (PEP): targets primary-age children in pastoralist communities and provides mobile primary education. In this programme, teachers travel with the community.
5) Intensive English Course (IEC): addresses the needs of the population lacking proficiency in the English language. The target group includes youths and adults who have not had the opportunity to learn English and teachers and government officials who wish to learn or enhance their knowledge of the language. It comprises three short courses that aim to enhance English skills to open opportunities for beneficiaries of the programme to integrate into society.

30 Other programmes related to accelerated primary and secondary targeting teachers will be opened in 2023.

3.2 Enrolment and enrolment capacity

This section addresses the enrolment capacity in formal education by analyzing the number and characteristics of schools in the country, disaggregating by states and their risk profiles, as well as the availability and evolution of AES centres. The section then provides an outlook on the evolution of enrolments, both in formal and non-formal education and characterizes the enrolment profiles of South Sudan in comparison with other countries in the region. Finally, it explores the inequalities in terms of gender and states by identifying gaps in enrolments and provision of services.

3.2.1 Provision of schools and system's enrolment capacity

In South Sudan, the main source of data on students enrolled in schools and their characteristics is the Education Census (EC), which feeds the Education Information Management System (EMIS). The implementation of the EC in the Republic of South Sudan has been conditioned by the security situation in the country and, in more recent years, by natural disasters (MoGEI, 2022). For instance, in 2015, the EC only covered seven out of 10 states due to challenges arising from conflicts. This led to the Greater Upper Nile states (Jonglei, Unity, and Upper Nile) not being covered. Later, MoGEI collected additional data from the missing states but covered only 45% of their counties (MoEST, 2015).

In the 2021 EC, the data collection process also experienced challenges resulting in no or under coverage of five counties – three in Western Equatoria State because of conflict and two in Upper Nile State because of technical mistakes (MoGEI, 2022). Additionally, according to the MoGEI EMIS team, other areas were not reached due to flooding, which affected the coverage in other counties. *Annex* 1 shows the coverage of the census' versions from 2015 to 2021.

Therefore, due to availability of data, the analysis of the evolution of schools and enrolments from 2015 to 2021 was done excluding Greater Upper Nile states (Jonglei, Unity, and Upper Nile). However, the analysis of the current state of the system's capacity, which is 2021, includes all states and administrative areas.

From 2015 to 2021, the total number of schools increased at all levels of formal education, but the system's capacity is low, especially in Greater Upper Nile states.

In 2021, the number of schools providing formal education reached 5,784 at the national level. 73% of these schools provide primary education, while only 18% provide pre-primary and 9% secondary. The large proportion of primary schools in South Sudan suggests that the education system was mainly oriented to provide primary education to the school-age population, which aligns with the Constitution's mandate of providing compulsory primary education to its citizens. However, focusing on the expansion of only one level of education might pose limitations in providing education at other levels.

For instance, *Table 3.2* shows the ratio of the number of school-age population for each level of education divided by the number of operational schools at the respective level, a ratio that offers insights into the system's capacity to respond to

the education needs of the population in terms of potential access. For all South Sudan in 2021, including Greater Upper Nile states and Administrative Areas, the best system's capacity is in primary education, with a ratio of 758 children to one operational school. In contrast, the burden is significantly larger for pre-primary and secondary education: the ratios at these levels are almost 1,400 and 2,570 children of target age per school, respectively. The secondary stream depicted the system's incapacity to enrol learners.

Since 2015, the variations in the number of operational schools[31] indicate a shift in focus in the expansion of schools: there is a move from primary schools towards opening more secondary ones. The largest expansion is depicted in secondary schools with an accumulated growth of 72% in this period. The remarkable increase in the number of secondary schools represents progress in providing access to the school-age population of 14 to 17 years and expanding the country's capacity to accommodate the increasing number of learners who will finish primary education in the following years. The increase in the number of secondary schools led to a decrease of 31% in the ratio of school-age population per operational school. However, as will be explained in the following section, the increase in the number of secondary schools and the progress in increasing the system's enrolment capacity has been driven by non-governmental actors (communities, NGOs, private sector, and others), which reduces the burden on the government to provide access to education to its population.

Table 3.2 Number of schools by the level of formal education and relative supply of schools (school-age population/number of schools), with and without Greater Upper Nile states, 2015–2021

Focus	Level	Measurement	2015	2018	2021
With Greater Upper Nile states and Administrative Areas	Pre-primary	Number of schools			1,057
		School-age population/Number of schools			1,394
	Primary	Number of schools			4,226
		School-age population/Number of schools			758
	Secondary	Number of schools			501
		School-age population/Number of schools			2,570
Without Greater Upper Nile states and Administrative Areas	Pre-primary	Number of schools	733	479	802
		School-age population/Number of schools	1,095	1,960	1,193
	Primary	Number of schools	2,912	3,038	3,281
		School-age population/Number of schools	598	670	633
	Secondary	Number of schools	245	253	422
		School-age population/Number of schools	2,788	3,154	1,929

Source: Authors' computations using EMIS data (2015 and 2018) and the Education Census Database, 2021

31 The variations in the number of schools are depicted only for states that do not belong to Greater Upper Nile or Administrative Areas due to the availability of data.

Box 3.1: Supply-side issues: high proportion of non-operational schools and centres, mainly located in high vulnerability and risk areas.

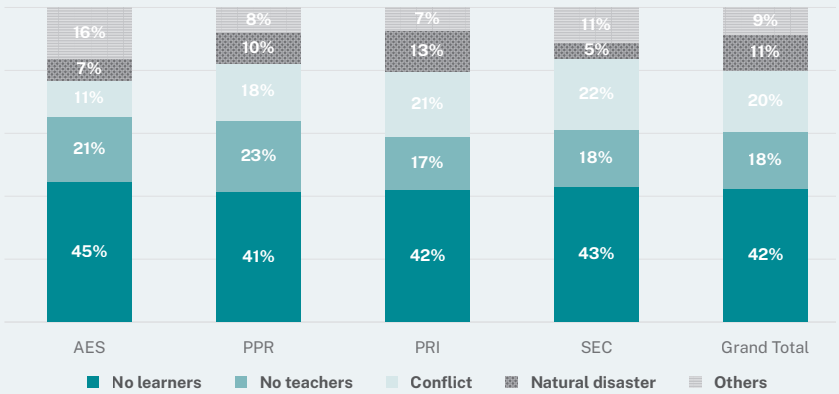
While the overall number of operational schools has increased since 2015, there remains a significant proportion of closed or non-operational schools. According to the 2021 EC, an average of 12% of pre-primary, 19% of primary, and 17% of secondary schools are closed. AES have the highest proportion of non-operational centres, depicting an average of 23.8% at the national level.

The states that presented the largest numbers of non-operational schools are Jonglei in pre-primary (68%), Unity in primary (44%), and Pibor AA (71%) in secondary education. The situation in AES is less heterogeneous, but with larger proportions across states. For instance, eight states had more than 20% of closed centres in 2021; three of them with percentages above 30%, that is, Lakes, Eastern Equatoria, and Jonglei states (See Annex 7).

It is important to highlight that the largest proportion of closed schools are not operational because of the lack of learners; an average of 42.4% of schools are operational. The second most cited reason for the closure of primary and secondary schools was conflict and lack of teachers for pre-primary and AES centres. Natural disasters were associated with the closure of 8.6% of schools on average, ranging from a high of 16% in AES schools to 7% in primary.

The Education Needs Assessment 2022 (ENA) obtained information regarding the reasons for closure: flooding, lack of support/systems in place to support re-opening after COVID-19 closure, and then looting by armed groups were the main reasons cited for school closure. Additionally, in the 2018 ENA, the main reasons were the same: insecurity, teachers and students fleeing. Again, conflict and natural hazards are major challenges to the provision of education in the country.

Distribution of schools by reason for closure according to the head teacher, for each level of education, 2021



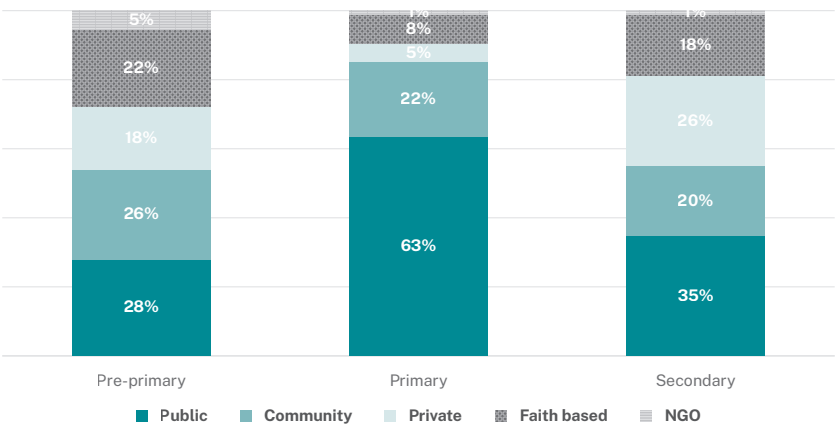
Source: Authors' computations from the Education Census Database, 2021

In the case of pre-primary, the number of schools only expanded by 9% from 2015 to 2021. However, the expansion was not sufficient to decrease the number of potential students in pre-primary: the school-age population per one-school ratio in pre-primary increased by 9% from 2015 to 2021, meaning that the system's capacity decreased in this period. Similarly, the primary education ratio grew by 6%.

The evolution of the school-age population per one-school ratio shows that for pre-primary and primary education, the overall trend is an increasing one, while for secondary education, it is the opposite. The former phenomenon could be explained by the fact that the growth rates of the schools for pre-primary and primary do not compensate for the growth of the school-age population for each level of education. One of the positive aspects is that the education system, driven by non-governmental actors, is moving forward in the expansion of its infrastructure respective to the school-age population from 14 to 17 years (see *Table 2*).

The system's capacity is different across the territory. For instance, the school-age population per one school ratios that include Greater Upper Nile states are larger than the ratios without them for all levels of education, which suggests that, on average, Greater Upper Nile states have a lower capacity to address the demand for education. The low system's capacity might be associated with the fact that these states have been affected the most by conflict and floods, and structurally have a more vulnerable socio-economic situation (see *Annex* 2). Unity, Jonglei, and Upper Nile depict the highest ratios of school-age population per school, also displaying the highest exposure and vulnerability indices, as addressed in *Chapter 2* (Unity, Jonglei, and Upper Nile states are the top one, three and four in the Disaster Fragility Index). In contrast, Western Bahr el Ghazal and Western Equatoria depict the best system's capacity and the lowest Disaster Fragility indices. This situation highlights the fact that conflict and natural disasters are major factors that damage the country's capacity to provide access to educa-

Figure 3.1 Distribution of schools by ownership, according to the level of education, 2021



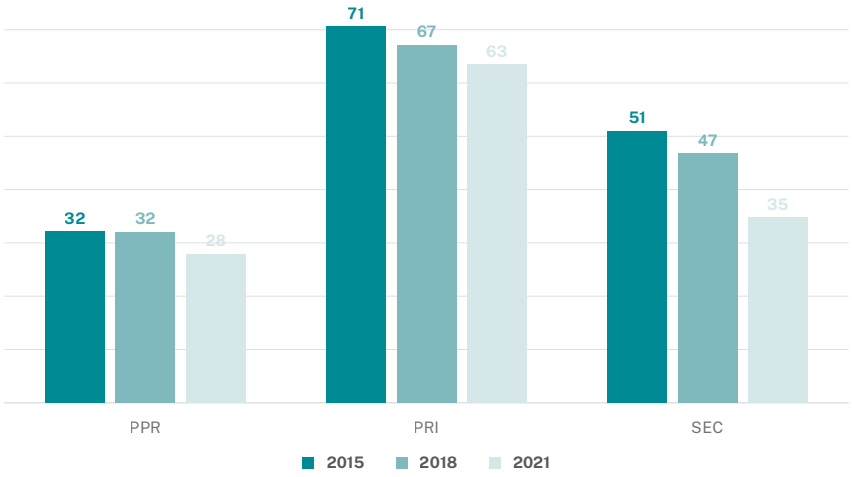
Source: Authors' computations from the Education Census Database, 2021

tion to its population and accentuate the need for public and private actions to address them.

The government is the main supplier of education, but its relative weight is decreasing over the years. Public institutions are the largest proportion of schools at all levels of formal education (see *Figure 3.1*). They represent 63% of primary schools, 35% of secondary ones, and 28% of pre-primary ones. However, non-governmental actors have an important role in providing education as well. On the one hand, community schools represent over 20% of all schools in the three streams of formal education, with a larger share in pre-primary (26%). On the other hand, private schools constitute 26% of all secondary ones, while 18% are in pre-primary. The relative number of public schools across all levels suggests that the presence of public education is the lowest where the supply gap is the largest, as presented in the previous section. This situation presents a challenge in terms of the management of schools, quality assurance, and provision of low-cost education to the population. Furthermore, the proportion of government schools is decreasing over time across all levels of education. As depicted in *Figure 3.2*, the share of government pre-primary schools declined from 32% in 2015 to 28% in 2021, that is, a 13% decrease. Similarly in primary education, public schools decreased by 10%, going from 71% to 63%.

In the case of secondary, the relative weight of government schools shrank by 32%, which means that the increase in secondary schools shown in the previous section was driven by non-governmental actors in the country, such as the private sector, communities, and faith actors. The low provision of public education might exacerbate exclusion factors and undermine efforts to provide access to education to all and to create conditions for completion of the education cycle, as

Figure 3.2 Evolution of public schools by level of education (in percentage), 2015–2021



Source: Census Booklet (2015–2018), authors' computations from the Education Census Database, 2021

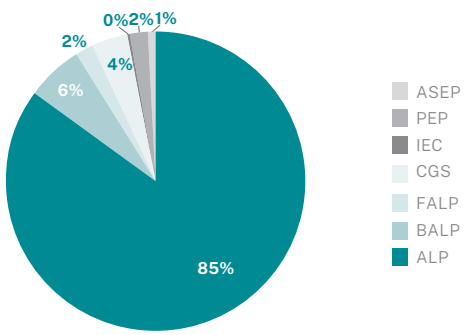
private schools and community-based ones charge fees to run the schools, pay teachers, and so forth. In Section 3.3.2, the payment of fees in schools is addressed as one of the reasons for learners dropping out.

3.2.2 Non-formal education system

3.2.2.1 Evolution of centres in the non-formal system

AES centres have more than halved, reducing the capacity of the system to provide instruction opportunities to the most disadvantaged populations. In the context of low-system capacity to offer education at the pre-primary and secondary levels, along with geographical inequalities in the allocation of schools across states, there is a pressing need to provide alternative learning opportunities to excluded populations, starting from the availability of centres to offer instructional programmes. According to the EC 2021, the number of AES operational centres is 538, located throughout the South Sudanese territory (see Table 3.3). However, the distribution of these centres is mainly concentrated in only three states: Warrap State with 111 operational centres, Northern Bahr el Ghazal with 70 centres, and 57 in Western Equatoria, representing 22%, 14%, and 11% of the centres, respectively. In contrast, Administrative Areas have the lowest number of centres: there is only one in Abyei Administrative Area, nine in Ruweng, and 10 in Pibor. The Alternative Education System comprises several programmes targeting different groups (see Section 3.1.2.2). The most common programme taught is the Accelerated Learning Programme (ALP), with 85% of centres offering it as their main programme, followed by the Basic Adult Literacy Programme (BALP), with 6% of the centres (see Figure 3.3). Others, such as Community Girls School (CGS), Functional Adult Literacy Programme (FALP), and the Pastoralist Education Programme (PEP), only represent 4%, 2%, and 2%, respectively.

Figure 3.3 Distribution of centres by the main programme taught, 2021



Source: Authors' computations from the Education Census Database, 2021

The supply of these programmes has decreased significantly since 2015. The number of AES centres in 2021 is one-third of the number in 2015, going from 1,156 centres to 397 (not including Greater Upper Nile states and AAs), representing a major challenge to enrol learners in non-formal education (see *Table 3.3*).

Out of the states that were covered in the EC 2015, the largest drop in operational centres occurred in Central Equatoria (-84.8%), Lakes (-83.3%), and Northern Bahr el Ghazal (-70.8%). From 2018 to 2021, the largest drops happened in Central Equatoria, Western Equatoria, and in Unity (76.9%, -53.3% and -44.9%, respectively). *Box 3.1* offers an analysis of closed schools and centres, and the reasons for closure. Alternative education is mainly provided by the government (58%), followed by centres managed by communities, which represent 25% of AES centres. Meanwhile, private centres only represent 4%. The share of government schools has been decreasing since 2015, going from 64% to 58% in 2021 (*Figure 3.4*). This trend is also observed in formal schools, indicating that the government is lagging in providing education to its citizens.

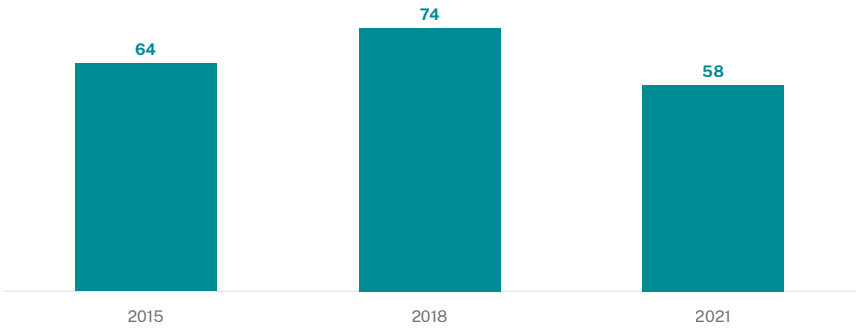
As the AES stream was created to provide an alternative option for instruction to populations that were initially excluded

Table 3.3 Evolution of Alternative Education System's Centres by state, 2015–2021

	2015	2018	2021
Abyei Administrative Area			1
Central Equatoria	302	26	48
Eastern Equatoria	72	49	46
Jonglei		32	42
Lakes	203	78	35
Northern Bahr el Ghazal	240	122	70
Pibor Administrative Area			16
Ruweng AA			9
Unity		49	32
Upper Nile		35	41
Warrap	88	118	113
Western Bahr el Ghazal	65	15	20
Western Equatoria	186	122	65
Grand Total	1,156	646	538
Total without Greater Upper Nile states and Administrative Areas	1,156	530	397
Variation		-54.2%	-25.1%

Source: Census Booklet (2015–2018), authors' computations from the Education Census Database, 2021

Figure 3.4 Evolution of the proportion of public AES centres (in percentages), 2015–2021



Source: Census Booklet (2015–2018), authors' computations from the Education Census Database, 2021

or cannot access education because of distance, over-age, and so forth, its contraction represents a major challenge to the education system in South Sudan, which is characterized by a low capacity to meet the population's demand for education, especially the most disadvantaged groups. Additionally, there is a large debt related to the provision of instruction opportunities to pastoralist and fishing communities, which comprise a large proportion of the South Sudanese population.

3.2.2.2 Evolution of enrolment in the non-formal system

Enrolment in AES has decreased in absolute terms from 2015 to 2021 with variations between years observed. As shown in *Table 3.4*, enrolment decreased by 60%, before recovering from 2018 to 2021.[32] However, in 2021, enrolment was 40% less than in 2015. During this period, some states had gains in terms of enrolment, while others experienced losses. Eastern Equatoria and Warrap depicted growth in their enrolments (17% and 14%, respectively), while states like Lakes and Western Bahr el Ghazal experienced losses of 72% and 49% from 2015 to 2021.

Gender disparities are also present in the AES system, although to a lesser extent than in the formal system. Of the total AES enrolment, females represent 48%. However, in places like the Pibor Administrative Area, female students in AES account for only 20% of the enrolments. In contrast, the largest proportions of females are found in Abyei Administrative Area and Western Equatoria, representing 60% and 56%, respectively (see *Figure 3.5*).

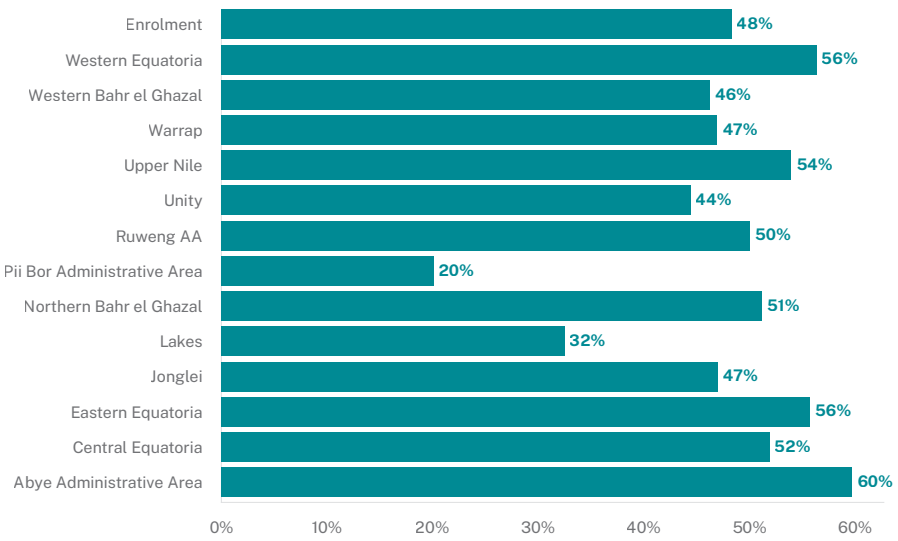
32 The variations in the number of schools are depicted only for states that do not belong to Greater Upper Nile or Administrative Areas due to the availability of data.

Table 3.4 Evolution of enrolment in AES centres, without GUN states and administrative areas, 2015–2021

State	2015	2018	2021	Period growth rate 2015/2021
Central Equatoria	12,673	1,382	8,267	-35%
Eastern Equatoria	4,179	1,514	4,878	17%
Lakes	21,819	5,525	6,188	-72%
Northern Bahr el Ghazal	31,735	14,273	18,150	-43%
Warrap	13,382	10,429	15,200	14%
Western Bahr el Ghazal	10,616	1,641	5,394	-49%
Western Equatoria	12,434	8,154	7,013	-44%
Total	106,838	42,918	65,090	-39%

ource: Census Booklet (2015–2018), authors' computations from the Education Census Database, 2021

Figure 3.5 Proportion of AES female students by state, 2021



Source: Census Booklet (2015–2018), authors' computations from the Education Census Database, 2021

3.2.3 Enrolment in formal education

There was an overall increase in enrolment except in states affected by floods and/or conflicts. As shown in *Table 3.5*, total enrolment reached over 2.2 million in 2021, of which 85.6% of the students were in primary education, 7.7% in pre-primary, and 6.7% in secondary. When excluding Greater Upper Nile states and Administrative Areas, secondary education had the largest gains in enrolment doubling from 2015 to 2021, suggesting that the country has moved forward in expanding access to secondary education. Both pre-primary and primary levels increased their enrolment levels by more than a third (39% and 42%, respectively). The largest expansions were observed in the period between 2018 and 2021, presumably because the education system was still recovering from the impacts of the conflict after 2016.

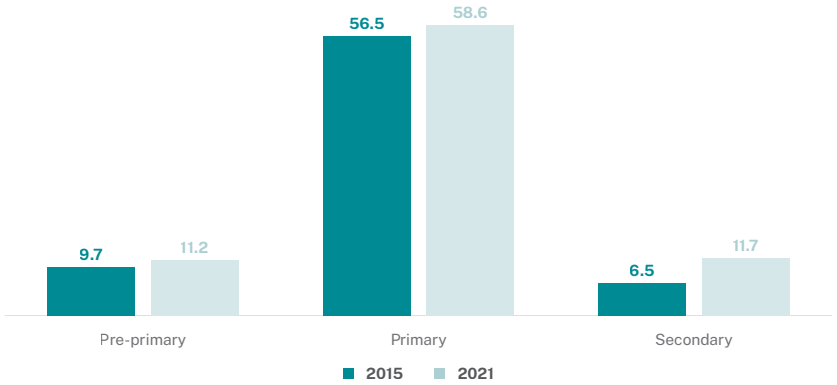
Despite the growth in the number of schools and enrolment levels, the system has not been able to progress in enrolment rates. The gross enrolment rate (GER) is an indicator that measures the total number of students enrolled as a proportion of the total population of school-age. In the case of South Sudan, pupils enrolled in pre-primary and secondary represent 11% of the eligible population for these levels, while students in primary represent 59% of its eligible population, five times higher than for the other education levels. However, the secondary GER depicted the largest improvement in recent years, increasing from 6.5% in 2015 to 12% in 2021 (an increase of 75% in the period). This progress is consistent with the expansion of schools at this level of education and the increase in enrolment.

Table 3.5 Evolution of enrolment by level of formal education, 2015–2021

	2015	2018	2021
Pre-Primary			
Enrolment	89,210	113,824	172,661
Enrolment w/o GUN	89,210	86,838	124,158
Growth rate		-2.7%	43.0%
Primary			
Enrolment	1,005,362	1,605,091	1,907,976
Enrolment w/o GUN	1,005,362	1,162,594	1,424,871
Growth rate		15.6%	22.6%
Secondary			
Enrolment	58,928	84,562	149,671
Enrolment w/o GUN	58,928	76,028	128,090
Growth rate		29.0%	68.5%
Total			
Enrolment	1,153,500	1,803,477	2,230,308
Enrolment w/o GUN	1,153,500	1,325,460	1,677,119
Growth rate		14.9%	26.5%

Source: Census Booklet (2015–2018), authors' computations from the Education Census Database, 2021

Figure 3.6 Gross enrolment ratios by level of education, 2015 and 2021



Source: ESA 2015 and authors' computations from the NEC, 2021

Figure 3.7 Gross enrolment rates by country with medium-intensity conflict and level of education

Source: IIEP database and authors' computations from the Education Census Database, 2021

Despite the increase in the supply of schools and the expansion in enrolment, the GERs in pre-primary and primary education have barely increased in six years (see *Figure 3.6*). Furthermore, when comparing these GERs to the other medium-intensity conflict countries (World Bank's classification in 2021), South Sudan GERs is below average and depicts the second lowest GERs for primary and secondary education (see *Figure 3.7*). Moreover, South Sudan has the lowest rates at all levels of education compared to other countries in the Eastern African Community, except for DRC's pre-primary GER (see *Annex* 3).

3.2.3.1 Disparities in enrolments ratios by state

There are major differences in the GERs by state associated with the impacts of conflict and natural disasters and their vulnerability to these hazards. The levels of enrolment as a proportion of the school-age population are different across states, as presented in Figures 3.8, 3.9 and 3.10. Specifically, in pre-primary education, Western and Central Equatoria had the highest rates (30% and 28%, respectively), which are up to 16 times higher than the states with the lowest rates (Jonglei and Northern Bahr el Ghazal, with 1.6% and 2.6%, respectively). In primary, the differences are less acute: Western Bahr el Ghazal depicted the highest GER at 121% vs. Eastern Equatoria with 26%, 4.6 times lower. Western Bahr el Ghazal also exhibited the highest GER in secondary education at 32%, while Jonglei, Unity, and Upper Nile presented the lowest at 3%, the first two, and 5% the latter. The data suggest that the exposure to risk and hazards, and the vulnerability

Figure 3.8 Pre-primary gross enrolment rates by state, 2021

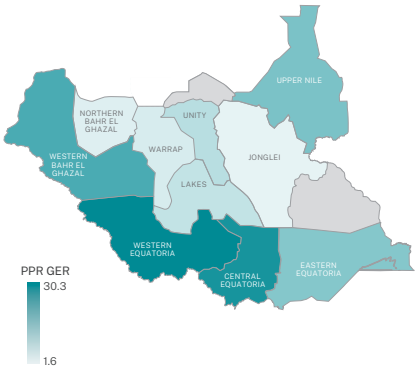


Figure 3.9 Primary gross enrolment rates by state, 2021

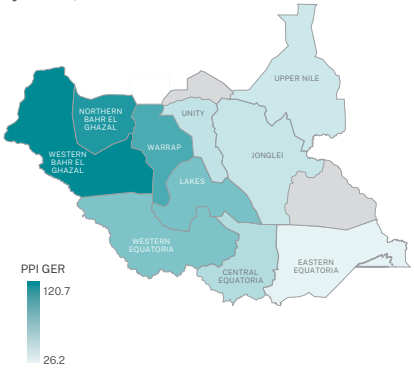
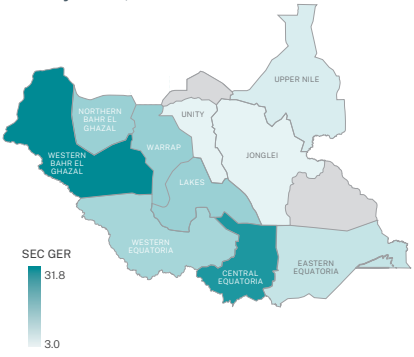


Figure 3.10 Secondary gross enrolment rates by state, 2021



Source: Authors' computations from the Education Census Database, 2021

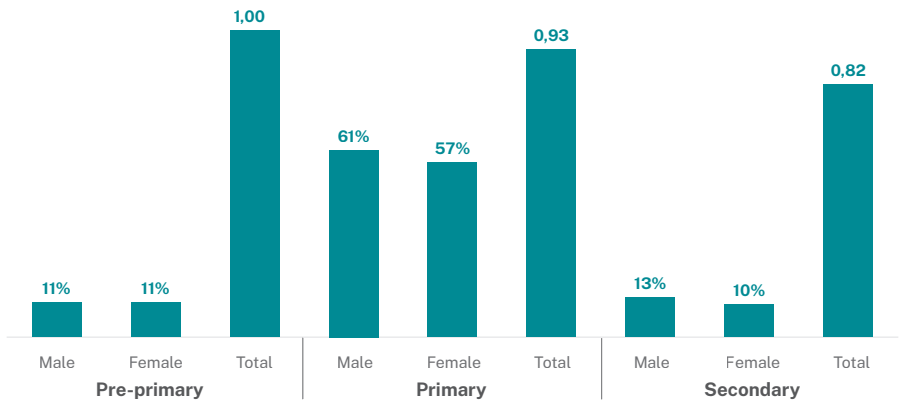
of states, expressed in their socio-economic conditions and their fragility, are associated with the GERs. The states with the highest GERs are the ones with the lowest Disaster-Fragility Index and vice versa: the ones with the lowest GERs are the ones with the highest Index (see *Annex 2*). Furthermore, the most disadvantaged states in terms of GER are the ones with the lowest system capacity to enrol students and with the largest proportion of closed schools, that is, Unity, Jonglei, and Greater Upper Nile.

As addressed in *Chapter 2*, conflict and natural disasters, alongside poor socio-economic conditions, can affect access to education by putting the lives of learners and teachers at risk, destroying infrastructure, forcing migration, and creating food insecurity situations. Conflict and disasters were the main reasons for the closure of over 30% of non-operational schools in 2021 and were associated with the other reasons identified, such as 'no learners' and 'no teachers' (see *Box 3.1*). All in all, to advance in providing access to education to the population, special attention must be directed towards more exposed and vulnerable states in South Sudan, such as the Greater Upper Nile states.

3.2.3.2 Inequality between boys and girls, especially in the most vulnerable zones

Unequal access to education can lead to fewer opportunities for an individual's development, thus impacting the development of societies. Guaranteeing access to education for both girls and boys is a human right and a key aspect of human development (UNDP, 2021). In sub-Saharan African countries, strong gender stereotypes and roles persist, often hindering opportunities for males and females to access and complete education (UNESCO, 2020). As depicted in *Figure 3.11*, there are differences in the enrolment rates of males and females in South Sudan, except for pre-primary education. The GER for girls in primary education is 57%, 7% lower than for boys (4 percentage points lower), leading to a Gender Parity Index (GPI) of 0.93. In the

Figure 3.11 Gross enrolment ratios and gender parity by the level of education, 2021



Source: Authors' computations from the Education Census Database, 2021

case of secondary education, the difference is more acute: the GER for males is 13% while for females is 10%, 18% lower, reflected in a GPI of 0.82.

The differences between genders also vary across states. *Figures 3.12, 3.13, and 3.14* present the GPIs by state for each level of formal education, the larger the gap between the orange asterisk and the parity line, the larger the difference between genders. Most of the states show a disadvantageous situation for females in South Sudan. In the case of pre-primary, the GPI of states shows the lowest distance from the parity line, with Jonglei and Unity depicting the highest inequality at this level of education. In primary, the highest levels of gender inequality are presented in Jonglei and Lakes with the former also being among the states with the lowest GERs. In secondary education, the highest levels of disadvantage for females are also observed in Jonglei and Lakes states, followed by Unity, Upper Nile, and Warrap. In contrast, Western Barh el Gazal depicted the highest secondary GPI across all levels of education and states, indicating that boys are in a disadvantaged situation compared to females.

Overall, Jonglei, Lakes, Unity, Upper Nile, and Warrap, states located in the Greater Upper Nile and the eastern part of Bahr el Ghazal show the largest gaps between males and females. They are always depicting the disadvantageous situations for the latter. As mentioned in previous sections, these states have the lowest system capacity and the lowest enrolment rates. Females in these states, therefore, suffer from a double burden in terms of access to education: one linked to their geographical area of residence and

Figure 3.12 Gender Parity Index of the pre-primary Gross Enrolment Rates by state, 2021

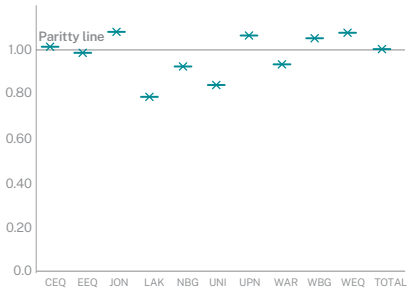


Figure 3.13 Gender Parity Index of the primary Gross Enrolment Rates by state, 2021

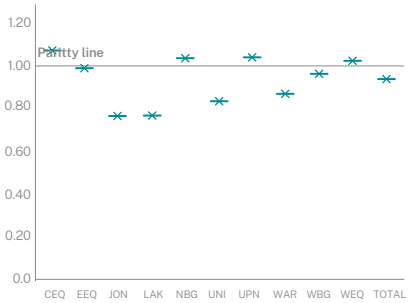
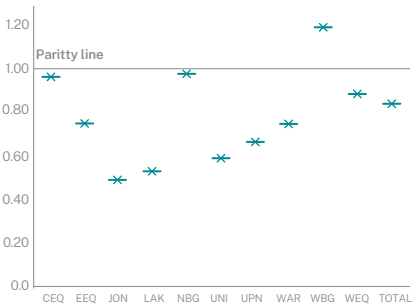


Figure 3.14 Gender Parity Index of the secondary Gross Enrolment Rates by state, 2021



Source: Authors' computations from the Education Census Database, 2021

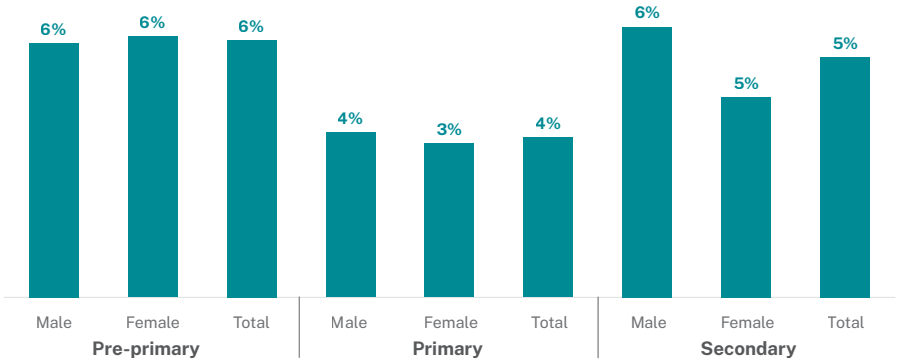
another one due to their gender, resulting in a systematic pattern of exclusion.

3.2.3.3 Internally Displaced People and returnees in formal education

One of the new features of the 2021 Education Census (EC) was the inclusion of questions related to internally displaced people and returnees. In South Sudan, studying this population is relevant because of the large number of IDPs in the country. According to estimations, the number of school-aged IDPs in South Sudan due to conflict and disasters was 448,000 and 172,000, respectively, meaning that over 600,000 children and teenagers had to move from their communities because of hazards (IDMC, 2022a).

According to the EC 2021, over 87,000 IDPs were enrolled in the formal education system, representing only 14% of the estimated school-age IDPs. In terms of enrolment, they represent 3.9% of total enrolment, and 6%, 4%, and 5%

Figure 3.15 Share of Internally Displaced People, by level of education and gender



Source: Authors' computations from the Education Census Database, 2021

Figure 3.16 IDPs as a share of total enrolment in formal education by state

Source: Authors' computations from the Education Census Database, 2021

in pre-primary, primary, and secondary education, respectively (see Figure 3.15). Male IDPs represented a larger share of male enrolment at all levels, compared to the share of females except for pre-primary. The largest difference between boys and girls is in secondary education, which aligns with the gender differences in enrolment rates. When analyzing IDPs' total enrolment by state, the highest numbers of IDPs are found in Unity (16%), Central Equatoria (11%), Upper Nile (7%), and Jonglei (5%), which are also the states with the largest number of IDPs in South Sudan, according to the Mobility Tracking Round 13 of IOM. (IOM, 2022)

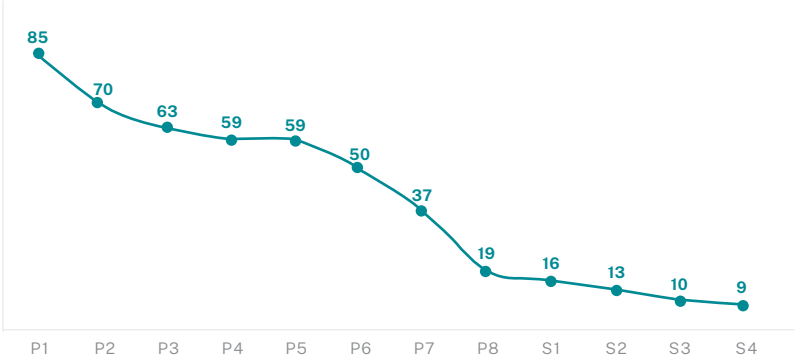
3.3 School profiles and repetition

The previous analysis on enrolments provided a characterization of the capacity of the system to address the educational needs of the population. However, it provides limited information on access to the primary and secondary and retention within sub-cycles. It is worth noting that the quantitative goals of education are not exclusively related to expanding the number of children enrolled, but also to ensuring that children complete the education cycle in the set number of years and do not drop out (IIEP-UNESCO Dakar, 2014). Therefore, in this section, cross-sectional education profiles are presented to show the extent to which the education system can retain students throughout the years. In addition, this section includes an estimation of the school life expectancy and the share of repeaters in the education system.

3.3.1 Schooling profile

Insufficient access and massive drop-outs characterize the schooling profile of students in South Sudan. *Figure 3.17* depicts the cross-sectional schooling profile in 2021 using the gross intake rate for the first year of primary and secondary education, and the access rates for the intermediate grades. This profile provides a visualization of the schooling pattern of an average child. The first point of the profile depicts the level of access to primary education, while the last provides the completion rate of that cycle. Universal access to primary education remains a challenge for South Sudan with access to P1 observed at 85% in 2021. In addition, retention also represents a major obstacle to guaranteeing completion of primary education as well. As shown in *Figure 3.17*, the access rates range from 85% in P1 to 59% in P4, exhibiting high levels of drop-out in the first four years of primary education. The rate is followed by a brief plateau between P4 and P5, before declining significantly in the final three years of primary, going from 50% in P6 to 19% in P8. At the end of primary, the retention rate is only 22%, meaning that less than a quarter of the learners who start primary education finish the cycle.

Figure 3.17 Cross-sectional schooling profile in South Sudan, 2021



Source: Authors' computations from the Education Census Database, 2021

From the last grade of primary to the first of secondary, the transition rate is around 85%, indicating that most of the students who manage to finish primary, access secondary. The concern is the high level of dropouts that happen within primary, hindering completion at that level, thus, affecting the level of access to secondary. When students reach secondary, the majority tend to remain in the system: the intra-cycle transition rate is 54%, significantly higher than the primary one.

From the beginning of primary, girls are disadvantaged in terms of access, opening a gap that will remain until P5. The intake rate for girls is 79%, 12 percentage points less than the rate for boys (see *Figure 3.18*). These disparities continue to P5 where females' access becomes 2 percentage points higher than males. This shift in the trend could be related to the implementation of the Girl's Cash Transfers starting at P5, a programme that aims 'to eliminate barriers to girls' education and promote gender equality throughout the South Sudanese education system.' According to an analysis of the impacts of this programme, the major challenge barring girls from attending school is economically related. Thus, with the implementation of the programme, not only have overall enrolment and attendance increased, but also the reintegration of out-of-school girls (GESS and CGA, 2018). Completion rates in primary and secondary are similar between the two groups. However, the gap enlarges when students reach the end of secondary education, favouring males.

When comparing the trends for the years 2015 to 2021, the cross-sectional schooling profiles in 2015 depicted a better scenario in terms of access to primary education. Access to P1 has decreased by 11 percentage points since 2015, depicting a deterioration of access to the system. However, the profile depicts better retention of students between grades in 2021. For instance, in both completion rates of primary and secondary, South Sudan showed an improvement in 2021 compared to 2015.

Figure 3.18 Cross-sectional schooling profile in South Sudan by gender, 2021

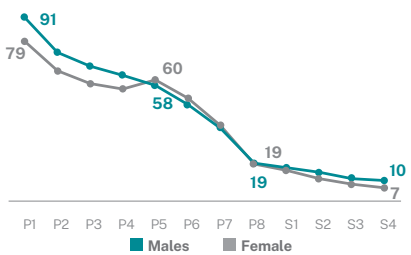
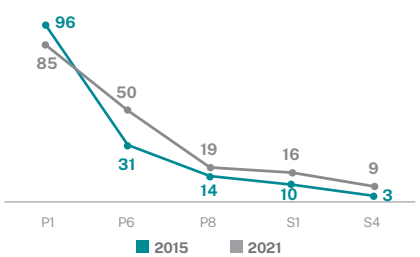


Figure 3.19 Comparison of the simplified cross-sectional schooling profile in South Sudan, 2015 and 2021



Source: Authors' computations from the Education Census Database, 2021

3.3.2 Reasons for dropping out of school

As discussed in the previous section, there are massive dropouts from the education system. According to the EC 2021, the first and main reason for dropping out is the inability to pay fees, accounting for 47%, 31%, and 38% of dropouts in pre-primary, primary, and secondary education, respectively (see *Table 3.6*). Secondly, long distance to schools was reported as the reason for 13% of the dropout cases in pre-primary and 16% in primary, while 5% in secondary. It is worth highlighting the proportion of students who dropped out because of marriage or pregnancy (only females), which was observed at 6% and 4% in primary, respectively, and 13% and 11% in secondary, respectively. Therefore, it is relevant to explore the behaviour disaggregated by the sex of the pupils to better understand the reasons for dropping out. After the inability to pay fees and long distance to school, insecurity and personal problems accounted for the third and fourth reasons for boys dropping out in primary, while marriage and pregnancy accounted for over 17% of dropouts among females. In secondary, the differences were more marked with almost 40% of girls citing that they dropped out because of pregnancy or marriage.

According to the Education Needs Assessment (ENA) 2021, when headteachers were asked for the main reason why boys did not return to school following the re-opening after COVID-19 school closures, the most reported answer was 'not being able to pay fees' (24%), followed by 'cattle rearing' (13%), and 'looking for or found a job/work' (10%). For female learners, the main reason was 'pregnancy' (25%), 'not being able to pay fees' (15%),

Table 3.6 Distribution of dropouts by reason according to the level of education and gender, 2021

	Pre-primary			Primary			Secondary	
Reason	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
Fees problems	45.9%	47.4%	46.6%	32.4%	28.7%	30.5%	36.9%	27.8%
Long distance to school	14.4%	11.9%	13.2%	17.1%	14.2%	15.7%	6.4%	4.0%
Personal problems	13.7%	14.7%	14.2%	8.3%	6.9%	7.6%	15.9%	9.9%
Found a job	0.0%	0.0%	0.0%	7.0%	4.8%	5.9%	0.0%	0.0%
Sickness	0.9%	1.0%	0.9%	2.6%	2.7%	2.6%	0.9%	1.1%
Insecurity	6.7%	6.2%	6.5%	10.1%	6.4%	8.3%	7.0%	3.3%
Marriage	0.0%	0.0%	0.0%	2.1%	9.1%	5.6%	7.2%	17.8%
Pregnancy	N/A	0.0%	0.0%	N/A	8.2%	4.1%	N/A	20.9%
Prison	0.0%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%
Disability	0.2%	0.1%	0.2%	0.3%	0.2%	0.3%	0.5%	0.2%
Unknown	18.3%	18.6%	18.4%	19.8%	18.6%	19.2%	24.9%	14.9%

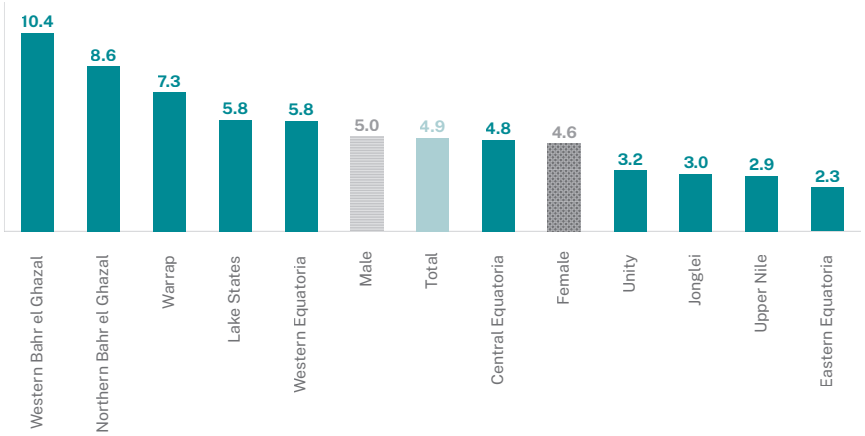
Source: Authors' computations from the Education Census Database, 2021

and 'marriage' (13%). In both the ENA and the EC, it is evident that gender roles and stereotypes affect both males and females, although in different ways; while boys did not return to schools because they started working, girls did not return because of pregnancy or marriage.

3.3.3 School life expectancy

A child born in 2021 is expected to complete 4.9 years of schooling on average. This number drops to 2.2 years for females born in Jonglei. The average number of years of education that a child in South Sudan is expected to receive is 4.9, compared to the ideal 12 years of schooling from primary to secondary that a child should receive, with observable differences between gender and state. For instance, the states with the highest school life expectancy are Western Bahr el Ghazal, Northern Barh el Ghazal, and Warrap (10.4, 8.6, and 7.3 years, respectively). The states with the lowest are Eastern Equatoria, Unity, and Upper Nile. Again, the states with the lowest school-life expectancy have the highest exposure and vulnerability to hazards and socio-economic disadvantage (see *Chapter 2*), the lowest system capacity, and the lowest enrolment rates. In terms of gender, males are expected to receive 5.0 years of education compared to 4.6 for females. However, these differences are relatively more profound in Jonglei and Lakes states.

Figure 3.20 School life expectancy (primary + secondary)

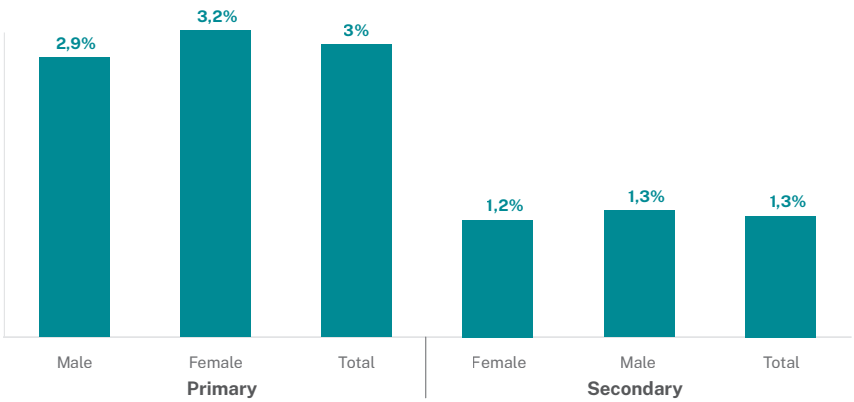


Source: Authors' computations from the Education Census Database, 2021

3.3.4 Internal efficiency: Repeaters in the system

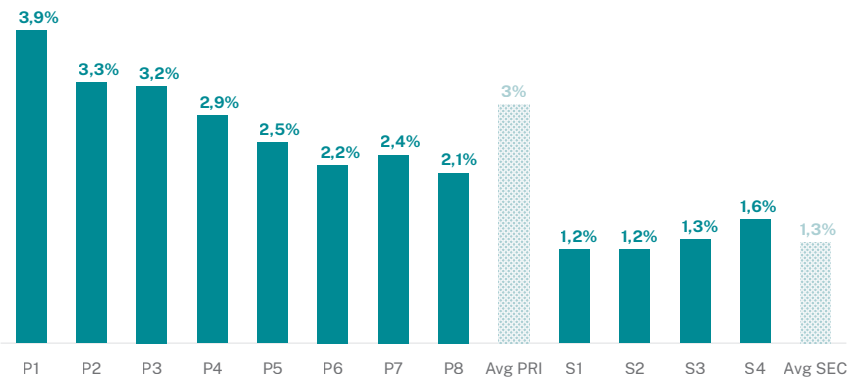
Another aspect to consider when analyzing grade-to-grade transition is the level of repetition in education and the internal efficiency of the system. Unfortunately, the EC and EMIS do not allow computing repetition rates because it lacks data for two consecutive years. Moreover, the EC 2021 does not identify

Figure 3.21 Share of repeaters by level and gender, 2021)



Source: Authors' computations from the Education Census Database, 2021

Figure 3.22 Share of repeaters by grade, 2021



Source: Authors' computations from the Education Census Database, 2021

the number of students who dropped out in that given year, a variable that is needed to compute the internal efficiency coefficient. However, the EC 2021 allows for the computation of the share of repeaters, which sheds light on the proportion of students who repeat a certain grade in relation to the total number of students enrolled. As shown in *Figure 3.21*, repetition is relatively low in the country with an average share of repeaters in primary education of 3% and 1.3% for secondary education, observed to be higher for females in both levels.

When computing repetition by grade (see *Figure 3.22*), the share of repeaters in primary starts at 3.9% in P1, dropping to 2.1% in P8, suggesting that either most students enrolled in P8 who sit the exam pass it or, if they fail it, do not repeat that grade. On the other hand, in secondary,

Figure 3.23 Share of repeaters in primary education by state, 2021

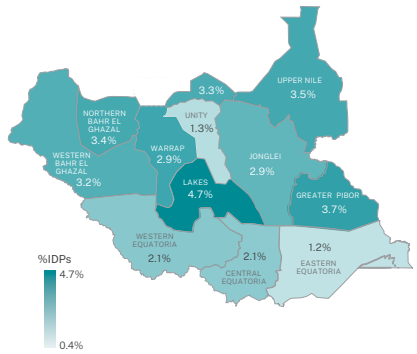
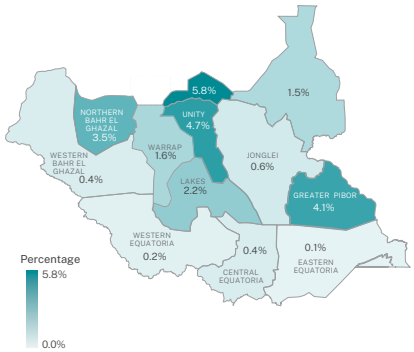


Figure 3.24 Share of repeaters in secondary education by state, 2021



Source: Authors' computations from the Education Census Database, 2021.

the share of repeaters increased from 1.2% in S1 to 1.6% in S4. The repetition profile in South Sudan, made with the share of repeaters, depicts that students tend to repeat more at lower grades in primary, while the opposite occurs for secondary, where they tend to repeat more at higher grades.

In terms of variations between states in primary education, Lakes State depicts the largest share of repeaters, while Eastern Equatoria and Unity present the lowest. The pattern is similar across states, with relatively low variation between them. However, as shown in *Map 6* for secondary, the share of repeaters is the highest in Ruweng and Pibor administrative areas, and in Unity and Northern Bahr el Ghazal (6%, 4%, 5%, and 4%, respectively). In contrast, the share of repeaters in total enrolment in all the other states is below 1%, with a low of 0.1% in Eastern Equatoria.

3.4 Out-of-school children in South Sudan

South Sudan continues to face major challenges in providing access to education to its children and adolescents. However, it is crucial to quantify the size of the population outside of the system and pay immediate attention to guarantee universal access to at least primary education. This section aims to answer the questions of how many, where, and who these children are, by providing estimates of the number of out-of-school children in the country, their share in the school-age population, and their characteristics.

3.4.1 Quantifying the number of out-of-school children

Using the methodology of the Global Out-of-School Children Initiative, led by UNICEF and UNESCO's Institute for Statistics (UIS), estimates for three dimensions of exclusions were computed. Dimension 1 corresponds to the three to 5-year-old children who lack school readiness (they are not counted as OOS); Dimension 2 includes the out-of-school population who are of primary age (between 6 and 13 years old) and are not in primary or secondary education. Dimension 3 refers to OOSC in the secondary school age group (between 14 and 17 years old) who are not either in primary or secondary education.

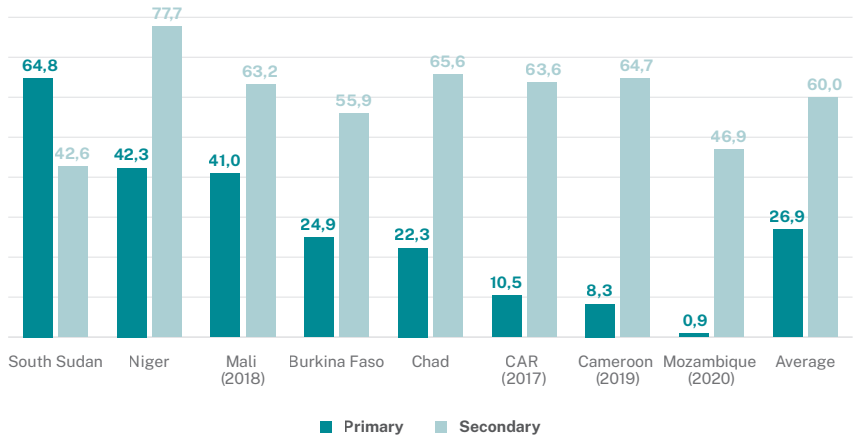
There are approximately 1.3 million children of pre-primary school age who are not in pre-primary or primary school, and who will lack school readiness in accessing primary education (See *Table 3.7*). On average, excluded children from pre-primary education represent 94% of

Table 3.7 Summary of indicators related to exclusion and out-of-school children1

	Male	Female	Total
Dimension 1			
Population 3 to 5 y/o	734,620	708,993	1,443,613
Excluded (3 to 5)	688,669	664,191	1,352,860
Share	93.7%	93.7%	93.7%
Dimension 2			
Population from 6 to 13	1,598,902	1,538,815	3,137,717
OOS aged 6 to 13	1,017,511	1,015,919	2,033,430
Share	63.6%	66.0%	64.8%
Dimension 3			
Population from 14 to 17	629,409	603,772	1,233,181
OOS aged 14 to 17	257,018	268,138	525,156
Share	40.8%	44.4%	42.6%
Dimension 1	688,669	664,191	1,352,860
Dimension 2 + dimension 3	1,274,530	1,284,056	2,558,586
Share of OOSC from 6 to 17	57.2%	59.9%	58.5%

Source: Authors' computations from the Education Census Database, 2021.

Figure 3.25 OOSC by country in medium-intensity conflict and level of education



Source: UIS-UNESCO, 2022 and authors' computations from the Education Census Database, 2021.

the children from 3 to 5 years old. The estimations do not show any difference between boys and girls, suggesting that this phenomenon does not play along gender lines. Over 2 million children aged 6 to 13 are OOS when combined with over half a million OOSC aged 14 to 17, raise a total of 2.55 million OOSC, representing 59% of the population from 6 to 17 years. For both dimensions, more girls are out of school than boys with the difference in Dimension 2 observed at 2.4 percentage points, while for Dimension 3, 3.6 percentage points. This raises the point that, even though measures must be implemented to reduce all OOSC in South Sudan, special attention should be paid to girls.

Figure 3.25 presents the latest estimations of OOSC for the available countries classified in medium-intensity conflict by the World Bank. South Sudan has the largest proportion of OOSC for primary education when compared to other conflict-affected countries such as Mozambique, which has a percentage of OOSC of just 0.9%. Conversely, South Sudan has the lowest proportion of OOSC in secondary education, significantly below the 60% average of the eight countries.

3.4.2 Locating and profiling the OOSC

In terms of their geographical distribution, 53% of OOSC are only in Jonglei, Eastern Equatoria, and Upper Nile states. These states also have the highest proportion of OOSCs within their school-age population, while the Western and Northern Bahr el Ghazal states have fewer OOSC (See *Maps 7* and *8*). Specifically, for pre-primary,

seven out of 10 states have a proportion of over 90% of pre-primary-age excluded children: Jonglei, Northern Bahr el Ghazal, and Warrap with over 99% of their population from 3 to 5 years outside of the education system. The largest exclusions in primary are in Eastern Equatoria, Unity, and Jonglei, with 83%, 82%, and 81% of 6 to 13-year-old children out of school, respectively. Finally, Eastern Equatoria (74%), Upper Nile (63%), and Jonglei (59%) have the largest numbers of secondary-aged OOSC in South Sudan.

When it comes to the characterization of OOSC, the 2020 Report on National OOSC Catchment Mapping in South Sudan reported that orphaned children constitute the largest number of OOSC, followed by girls facing child and early marriages. In contrast, children in refugee camps or urban slums have the lowest shares of OOSC, meaning that even though they are in refugee camps, 68% and 66%, respectively, get the opportunity to go to school. Children in pastoralist communities in South Sudan also face challenges in accessing educational opportunities offered by both the formal and non-formal education systems in the country because of the nature of their lives (UNESCO and FAO, 2015). According to MoGEI, 2020, 56% of children in pastoralist communities or nomadic families are out of school. This shows the need for specific actions to redress this situation for this part of the population and a necessity to expand the different ongoing interventions, such as the PEP of the AES, where there are only 10 operational centres across the country.

Figure 3.26 Share of pre-primary age excluded children (Dimension 1), 2021

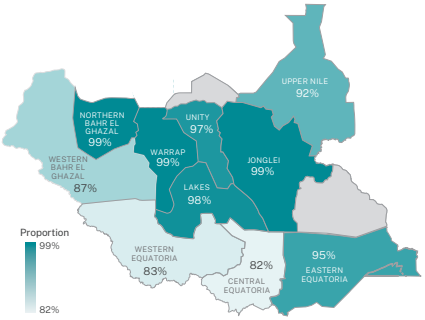


Figure 3.27 Share of children of primary school age children out-of-school (Dimension 2), 2021

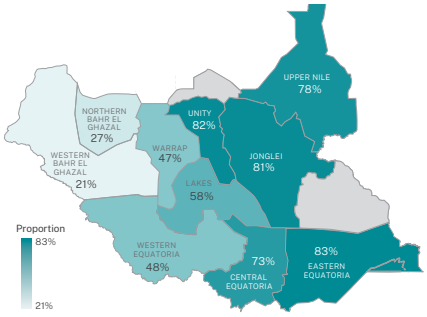
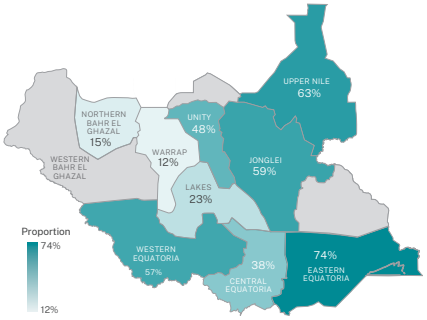


Figure 3.28 Share of secondary school-age children out-of-school (Dimension 3), 2021



Source: Authors' computations from the Education Census Database, 2021

3.5 Chapter summary

There has been an increase in total enrolment for all levels of formal education from 2015 to 2021, with variations between years, levels of education and states observed. However, gross enrolment rates (GER) have not changed significantly except for secondary education, which depicted a significant improvement between 2015 and 2021. Furthermore, GERs are still the lowest compared to other countries in the East African Community and African countries classified as medium-intensity conflict countries (World Bank's classification in 2021). In terms of sub-national disparities, the Greater Upper Nile states have the lowest GERs, the lowest systems capacity, and the highest risk and vulnerability, requiring specific programmes to expand enrolment rates, considering conflict- and natural disasters-related challenges and solutions. These states also have the largest proportion of OOSC in the country.

In addition to the issues of access, the system shows acute retention challenges, with dropouts pervasive. There are differences between genders in access to and completion of education, which can be explained by considering the different challenges faced because of gender roles. Students cannot access the education system or dropout from the system mainly because of the inability to pay fees. This is at odds with the Constitution and the General Education Act, which commit to fee-free education. Besides fee problems, girls drop out because of pregnancy and early marriage.

In conclusion, there has been progress in enrolling more children and teenagers, although this progress has not been translated into improved access for the school-age population. Access to education in South Sudan remains the lowest in the region, with more than half of the school-age population outside the education system. Finally, even when students access the system, there are major challenges in retaining them, particularly in primary.

Chapter 4
Expenditure analysis

Governmental commitments to financing education in South Sudan have grown in recent years. However, with the ultimate responsibility of implementation of education falling on the decentralized structures, the trickle-down of this funding to the school level remains a challenge. The following expenditure analysis is divided into three sections which consider the main sources of education financing in South Sudan. The first section examines the global education financing trends at the national level while the second examines how this funding is allocated and spent at the sub-national levels. The third section examines complementary private spending on education from households and looks specifically at the Girls Education South Sudan (GESS) project. South Sudan's fiscal year runs between the 1st of July to the 30th June the following year. This analysis covers the fiscal years between 2015/16 and 2021/22, with detailed analyses carried out using 2021/22 expenditure data. It must be noted that despite efforts to collect data from the state and county levels, relevant data were elusive. Consequently, how transfers to states and administrative areas are allocated is largely unknown, and so relevant sections discussing this dimension of expenditure are based on estimations.

4.1 Public spending on education: Improvements hampered by inflation

Every year, the Ministry of Finance sets a budget ceiling for each ministry, which encompasses all the funds the ministries are expected to receive over the coming financial year. Budget ceilings are set within the annual budget, considering the prioritization of sectors and financial resources predicted to be available in the coming year. If actual revenue turns out lower than projections, the Public Financial Management and Accountability Act mandates the minister for finance and the President to either explore methods to raise additional revenues including requesting allocations from reserve funds or to adjust budget ceilings downwards (GoSS, 2011). Once allocations are sent from the Ministry of Finance to respective ministries, all are expected to have a reporting unit that will ensure funds are spent as allocated in the annual budget (GoSS, 2011). While ministries are expected to produce semi-annual and annual reports, funds are not contingent on the completion of a set reporting process. Further, the reporting process for transfers to the ministries at the decentralized level is not clear and there is currently a lack of a centralized system for tracking decentralized spending.

4.1.1 Priority of public spending on education: Low levels of overall allocation to education

Public expenditure on education is executed by both centralized line ministries, such as MoGEI, and the parallel state-level ministries in each of the 10 states and three administrative areas. The education sector comprises the Ministry of General Education and Instruction (MoGEI), the Ministry of Higher Education Science and Technology (MoHEST), and the National Examination Council (NEC). Before 2016/17, MoGEI was responsible for the administration of primary and secondary examinations, before the NEC was set up with its budget and relative independence.

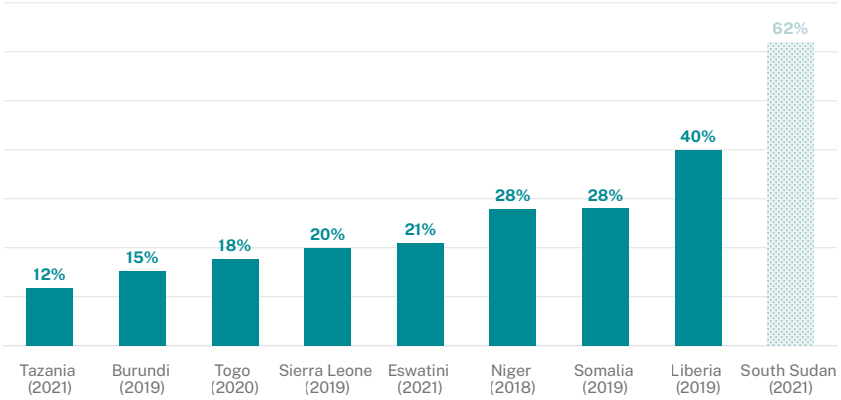
Total education expenditure has grown significantly over the period considered,

Table 4.1 Total education expenditure by vote, million SSP, 2015–2022.

	2015/16	2017/18	2019/20	2021/22
Total education expenditure	**671**	**2,321**	**10,294**	**37,973**
Education as % of overall gov't expenditure	3.6%	4.3%	6.1%	5.2%
Education as % of GDP	2.6%	0.6%	0.4%	0.9%
Ministry of Higher Education Science and Technology	**337**	**1,023**	**7,837**	**23,525**
MHEST as % of education expenditure	50.2%	44.1%	76.1%	62.0%
South Soudan National Examination Council	**-**	**86**	**291**	**1,150**
NEC as % of education expenditure	-	-	3%	3%
Ministry of General Education and Instruction	**334**	**1,212**	**2,166**	**13,297**
MoGEI as % of education expenditure	49.8%	52.2%	21.0%	35.0%

Source: Authors' calculations, IFMIS data 2015–2021.

Figure 4.1 Share of expenditure on higher education within the education sector, in selected countries

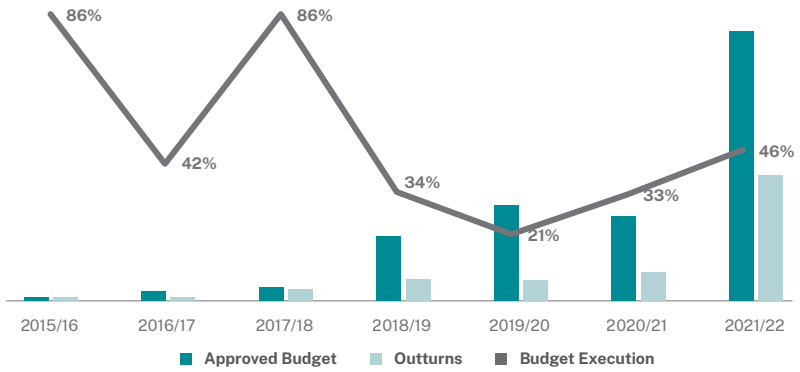


Sources: World Bank, World Development Indicators, 2023. IFMIS, 2021/22.

with the highest levels of growth in the past two financial years. This is mainly a result of increases in salaries for civil servants, as well as the additional allowances allocated for education professionals; the implementation of both began in 2020/21. At market prices, education expenditure has grown tremendously, increasing more than 50 times between 2015 and 2021, mostly to cover for inflation. As a proportion of overall government expenditure, expenditure on education has grown over the same period, reaching 5.2% in 2021/22. Despite the increase, the spending on education is still significantly lower than the 15–20% recommended in Education 2030 as necessary to achieve SDG 4 of universal and equitable access to education (UNESCO, 2016). Furthermore, education expenditure as a proportion of GDP stood at less than 1%, which is significantly below the Education 2030 recommended 4–6%. Of the total expenditure in 2021/22, 62% was attributed to MoHEST, while 35% was spent by MoGEI, with the compliment going to NEC. The inter-ministerial split in funding between MoGEI and MoHEST has varied greatly over the considered period (*Table 4.1*), reflecting a variability also seen in national-level sub-sectoral expenditure.

In comparison to other countries in sub-Saharan Africa, South Sudan allocates a much higher proportion of its total education expenditure to higher education and research at 62%. This can be explained by the higher salaries allocated to staff in higher education institutions, compared to the scale used for most civil servants and teachers. MHEST salaries are fixed to a pay scale structure different from most other ministries to ensure instructors' salaries are competitive with those in the region, thereby luring high-quality instructors to the institutions themselves. However, given the relatively low levels of participation in primary and secondary education as discussed in *Chapter 2*, redistribution of budgetary allocations should be considered as a policy strategy in efforts to expand basic education to all.

Figure 4.3 MoGEI budget allocation and actual expenditure, 2015–2022



Source: IFMIS, 2015–2022.

4.1.2 Credibility of education budgets: Budget execution a major challenge

Actual expenditures in MoGEI are lower than budget allocations, demonstrating low levels of budget credibility. The highest level of execution was in the 2015/16 and 2017/18 financial years, with a low of 21% in 2019/20. For the last four financial years, the execution of approved budgets has never reached 50%. It is important to note that budget allocations to education as a proportion of total allocations fall within the internationally recommended standards, standing at 17% in 2021/22. Rather, it is in the process of budget execution that financing is lost, with other sub-sectors and total government expenditure demonstrating significantly higher levels of budget credibility. This indicates low levels of political prioritization of education in spending execution and shows a need for more advocacy around education financing and strengthening of financial systems.

4.1.3 Public education spending by type: Variability in spending composition

Total expenditure by MoGEI has maintained a steady upward trend over the past seven financial years, with a significant jump of over 300% between 2020/21 and 2021/22. This increase, which is significantly higher than the trends for the preceding six years could be a result of an over 100% increase in salaries for civil servants and the introduction of additional allowances and incentives specifically for education staff. However, despite this positive trend in current prices, the high levels of inflation (discussed in *Chapter 1*) have led to an overall decrease in education expenditure as reflected in constant prices. For example, expenditure decreased by more than three times between 2015/16 and 2016/17, with subsequent decreases by more than 30% in 2020/21. Despite the doubling of salaries in 2021, the spending levels in 2021/22 did not reach the levels in 2015/16. In other words, the actual value of funding in the South Sudanese education sector has decreased since 2015/16, which can be correlated with the decrease in the provision of some educational services such as alternative education.

Table 4.2 MoGEI expenditure by type, 2015–2022.

Spending by Expenditure Type (SSP)	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Total (Current Prices)	333 767 638	407 520 758	1 211 649 402	2 330 729 945	2 166 327 766	2 994 639 620	13 297 486 264
% change		18%	66%	48%	-8%	28%	77%
Development					95 000 000		977 945 712
% of development	0%	0%	0%	0%	4%	0%	7%
Recurrent	333 767 638	407 520 758	1 211 649 402	1 650 959 853	2 071 327 766	2 994 639 620	12 319 540 552
Total (Constant Prices 2015)	333 767 638	96 404 418	91 575 906	68 037 901	59 801 718	66 675 828	227 345 151
% change		-246%	-5%	-35%	-14%	10%	71%
Development	-	-	-	-	2 622 486	-	16 719 793
Recurrent	333 767 638	96 404 418	91 575 906	68 037 901	57 179 233	66 675 828	210 625 358

Source: IFMIS, 2015–2022..

Table 4.3 MoGEI spending by economic classification, millions SSP, 2015–2022

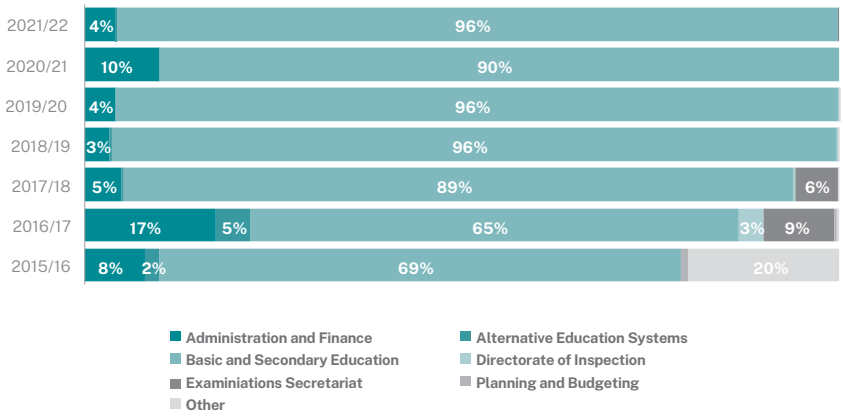
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Total Expenditure							
Capital	-	-	-	-	95	-	978
Goods and Services	20	60	106	49	53	382	1,128
Grants and Transfers	73	49	335	1,241	558	457	1,218
Wages and Salaries	240	299	771	1,241	1,461	2,156	9,974
As % of total							
Capital	0%	0%	0%	0%	4%	0%	7%
Goods and Services	6%	12%	28%	53%	26%	13%	8%
Grants and Transfers	22%	12%	28%	45%	26%	15%	9%
Wages and Salaries	72%	73%	64%	53%	67%	72%	75%

Source: Authors calculations, IFMIS 2015–2022.

Almost all expenditure by MoGEI in recent years has been dedicated to recurrent spending, with development expenditure only appearing in 2019/20 and 2021/22, and representing only 4% and 7% of overall expenditure in the respective years. This complete lack of capital expenditure can explain why no new schools have been financed or built by the government since independence.

Wages and salaries, including salary transfers to states, represent most spending in the past seven years, ranging from between 57% and 75% of overall MoGEI spending. The proportion of expenditure allocated to grants and transfers, which is composed of capitation grants and operational transfers to states and counties, has been variable over the considered period, although the past two financial years have represented particularly low levels of expenditure at just 15% and 9%, respectively. This can be explained by the non-payment of capitation grants in the 2020/21 and 2021/22 financial years. The difference is made up by a steady increase in the proportion allocated to salaries since 2018/19, rather than a significant increase in either goods and services spending or capital expenditure. It is important to note that capi-

Figure 4.4 MoGEI expenditure by directorate, 2015–2022 (%)



Source: Authors' calculations, IFMIS 2015–2022.

tation grants were stopped during the period of school closures from 2020 to 2021, which can explain their absence this year. However, given that the reopening of schools in South Sudan came before the 2021/22 financial year began, capitation grants were not included in the 2021/2022 budget, although 2023 reports indicate there is a government commitment to reinstate them.

The directorate votes for MoGEI expenditure, each aligned to a broad definition of activities, often related to a specific level of education. Basic and secondary education has remained the dominant directorate of MoGEI expenditure since 2015, with the expenditure in these levels representing 96% of all MoGEI spending in 2021/22. The next directorate in the spending line is administration and finance, representing an average of 7% of expenditure over the last seven years. Overarchingly, MoGEI expenditure has become less diverse over time. For example, while other expenditure includes the Directorate of Inspection, the Directorate of Gender Equity and Inclusive Education, the National Curriculum board received 20% of all funding in 2016/17, these directorates have not received any allocations in the past two financial years.

4.1.4 Evolution of public salaries: Teachers unable to meet basic needs

Salaries in South Sudan are set by the Ministry of Public Service and Human Resource Development and are divided into Grades 1–17, with Grade 1 being the highest paid. Grades are allocated according to the levels of responsibility associated with the position, as well as the experience and education of the employee. The grading of teachers functions according to teaching level, education, and years of experience. For example, a university graduate teaching at the primary level will begin in Grade 9 and will move to Grade 7 after three or four years of experience, while a teacher entering the profession with a secondary school-leaving certificate will start in Grade 14 and then move to Grade 12 after

three or four years of work. However, upward mobility within the grades is not automatic and requires that there is a vacancy at the higher level. Due to the small proportion of teachers that are officially integrated into the payroll system, the number of opportunities for promotion for teachers is further limited.

From independence in 2011 to 2021, salaries of public servants remained fixed in South Sudan despite the inflation and associated devaluation of the SSP over the same period. In the 2019/20 and 2020/21 financial years, MoGEI attempted to introduce additional allowances specifically for education staff. However, these allowances were not implemented as an agreement between the MoLPS, MoFP, and MoGEI was not reached. As a result, additional allowances for education staff, amounting to a fixed value of 8,000 SSP per staff member, were not implemented until the 2021/22 financial year. This came in addition to a 160% increase in basic salaries in the 2021/22 financial year as well as the introduction of new basic allowances, leading to significant increases in salaries for all civil servants across grades. However, it must be considered that the salary for educational staff in Grade 14, where most primary education teachers are, stood at 14,708 SSP monthly, compared to the cost of the multi-sectoral minimum expenditure basket of 48,770 SSP per month in August 2021. As discussed in *Chapter 1*, it is evident that teachers are still underpaid, as they are unable to cover necessities included

Table 4.4 Civil service payscale, 2020–2022, SSP.

	2020/21	2021/22	
Grade	MoLPS Total	MoLPS Total	MoGEI Total
1	8,690	28,380	36,380
2	7,290	25,030	33,030
3	6,326	21,402	29,402
4	5,369	19,170	27,170
5	4,911	17,722	25,722
6	4,638	17,176	25,176
7	4,201	15,802	23,802
8	3,833	14,766	22,766
9	3,628	13,956	21,956
10	3,225	11,750	19,750
11	1,701	9,401	17,401
12	1,288	8,101	16,101
13	1,102	7,274	15,274
14	1,356	6,708	14,708
15	1,134	5,078	13,078
16	1,054	4,518	12,518
17	979	3,968	11,968

Source: MoLPS and MoGEI paygrades, 2020–2022.

Table 4.5 Salary scale in constant prices and as a proportion of GDP/capita, select years

	Salaries in Constant Prices (2011)			Salaries as a multiple of GDP/capita, constant prices (2011)		
Grade	2011	2016	2021	2011	2016	2021
1	5,690	598	235	23.8	5.4	1.2
2	4,790	503	213	20.0	4.5	1.1
3	4,526	475	190	18.9	4.3	1.0
4	4,169	438	175	17.4	4.0	0.9
5	4,011	421	166	16.8	3.8	0.8
6	3,738	392	162	15.6	3.5	0.8
7	3,571	375	154	14.9	3.4	0.8
8	3,203	336	147	13.4	3.0	0.7
9	2,998	315	142	12.5	2.8	0.7
10	2,775	291	127	11.6	2.6	0.6
11	1,701	179	112	7.1	1.6	0.6
12	1,288	135	104	5.4	1.2	0.5
13	1,102	116	99	4.6	1.0	0.5
14	1,086	114	95	4.5	1.0	0.5
15	864	91	84	3.6	0.8	0.4
16	784	82	81	3.3	0.7	0.4
17	709	74	77	3.0	0.7	0.4

Source: Authors' calculations based on MoGEI Salary Scales 2011 and 2021 and NBS GDP data, 2011–2021.

in the basket, further demoralizing them, particularly the youth.

Although the government committed to increasing salaries, specifically for education staff in 2022/23, the commitment is yet to come to fruition, meaning the 2021/2022 rates remain applicable. Furthermore, not all states are implementing these new salary rates, and analysis revealed the payment of different salaries for education staff of the same grade across states, a discrepancy that needs to be addressed in future system development. While salaries have increased significantly, there have been corresponding increases in the prices of goods since 2011, which have wiped off the increases in salaries and caused an overall decline in purchasing power. This shows that the increase in salaries has not caught up with high levels of inflation.

In terms of salaries as a proportion of GDP/capita, the pay for teachers in Grade 12, for example, decreased from 5.4 times GDP/capita in 2011, which can be considered a well-paid teacher by international standards, to 0.5 times, or an incredibly low-paid teacher in 2021. This evidences not only the decrease in the total payment being received but also the decrease in purchasing power of the amounts being received.

Besides expenditure on salaries, the majority (58%) of MoGEI recurrent non-salary expenditure was allocated to operating transfers, followed by 28% on feeding allowances covering MoGEI's school feeding activities. Removing transfers and looking just at goods and services reveals the dominance of this feeding allowance in MoGEI recurrent expendi-

Figure 4.5 Non-salary recurrent expenditure by item 2021/22

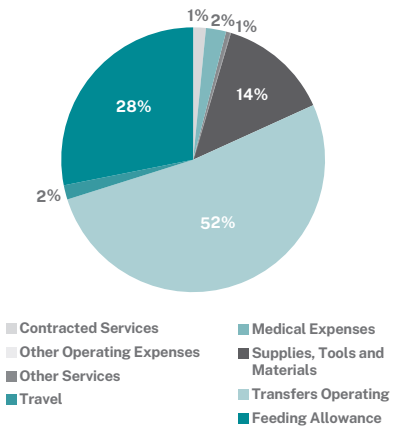
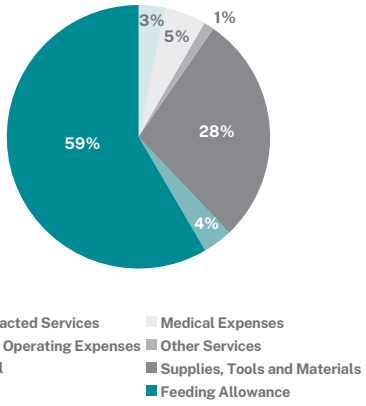
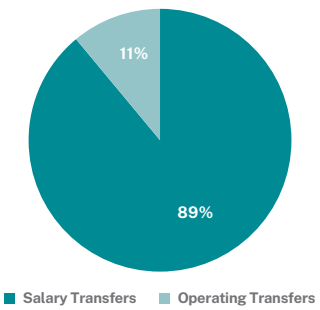


Figure 4.6 MoGEI goods and services expenditure by item, 2021/22



Source: Authors' calculations, IFMIS data 2021/22.

Figure 4.7 MoGEI grants and transfers expenditure, 2021/22.



Source: Authors' calculations based on IFMIS data 2021/22.

ture, representing 59% in 2021/22. This is followed by 28% on supplies, tools, and materials, mostly composed of office materials for the central MoGEI office.

As there were no capitation grants or teachers' incentives paid in 2021/22, all transfers were either for salaries or operations. Within these two categories, 89% of expenditure was allocated to salary transfers, while 11% was allocated to operations. While salaries may not dominate at the national level, at the sub-national they represent most of the expenditure, with only a small proportion allocated to the operation of decentralized offices and no allocation made directly to school operations.

4.1.5 Decentralized education expenditure: Data challenges related to accountability

South Sudan functions under a decentralized system, where authority is delegated to the state and county levels. In education, the states and counties are largely responsible for implementing educational policies and ensuring the everyday functioning of educational institutions. On the other hand, MoGEI, at the central level, is charged with policy development and administrative functions. The financing system in education and other sub-sectors reflects this devolution of authority through the transfer of funds to states and administrative areas to be used for the implementation of educational activities, including the payment of teachers' salaries. *Table 4.6* provides a summary of each of the three transfer types, including their intended destination, purpose, and how the total transfer amount is calculated by MoGEI.

Before January 2022, transfers in education were sent from the national Ministry of Finance to MoGEI. MoGEI would then transfer the funds to the state ministries of finance that then sent this on to the state ministries of education. However, this cascading system proved ineffective and inefficient, with SMoEs reporting frequently receiving less funds than what was due to them in transfers from the SMoFs (GoSS, 2022). For example, according to MoGEI financial documents, while operating transfers were paid to all states and administrative areas in 2020/21, only five confirmed receiving these transfers from their respective SMoF in the same financial year, and none reported having received the amount allocated by MoGEI in full (GoSS, 2022). To address this issue, the transfer policy which ensured direct transfers from MoGEI to SMoEs, thereby bypassing the SMoFs, was revised at the end of 2021. This reform further included the creation of national and state education transfer monitoring committees that are charged with the oversight of these transfers to ensure transparency and accountability. While more work remains to be done in terms of transparency and accountability of transfers, particularly how transfers are spent once they reach the SMoEs, this represents a positive step in ensuring the effectiveness of the transfer system in education.

Following the transfer to SMoEs, these ministries are then responsible for the distribution of the allocated amounts to counties. Accountability for these transfers is hampered by the weak capacity of financial systems in South Sudan, particularly in terms of access to banks. The 2021 Public Expenditure Tracking Survey found that only 20% of county education departments had bank accounts. As a result, transfers usually happen in person, with a representative from the county travelling to the states to collect amounts (in cash) allocated to them per month for salaries and operational costs. A similar process is observed at the county level, with payam education officers travelling to county offices to collect salaries before finally delivering them to schools in person.

This system clearly poses challenges for the efficient and timely transfer of funds, particularly in terms of teachers' salaries, as well as raising issues of transparency and accountability. Insecurity and natural disasters, particularly flooding, which are

Table 4.6 Transfers by type, level, purpose, and calculation method, 2022.

Transfer Type	Destination	Purpose	Calculation Method
Conditional salary transfers	County	Covers the salaries of county education departments staff and government-paid pre-primary, primary, AES teachers and school staff	Using SAMS or EMIS data for the school-based staff and Ministry of Labour data for the administrative staff, MoGEI uses the total number of staff by grade to calculate the total salary transfer to be allocated. In allocations, MoGEI considers all teachers and administrators in government and community schools, despite only a small proportion of them being officially integrated into the payroll.
	State	Covers the salaries of state ministry of education staff and government-paid secondary, TVET, and TTI teachers and school staff.	
Operating transfers	County	Covers the operational costs of county education offices.	Operating transfers for counties are allocated according to a 60/40 system with 60% of the total resource envelope for operating transfers as fixed by the Ministry of Finance split evenly between the 79+1 counties, while the remaining 40% is variable according to the total number of public schools in each county.
	State	Covers the operational costs of state education offices.	Operating transfers for states also follow the 60/40 system with 60% of total allocations split evenly between the 10 states and three administrative areas, while the remaining 40% is variable accounting for the total number of schools in each state or AA.
Transfers to service delivery units	Schools	Capitation grants are allocated to government ECD, ALP, primary, and secondary schools to cover basic running costs including stationery and school supplies, school maintenance and minor repairs, extra-curricular activities, and transport. Capitation grants to secondary schools are currently paid under the Girls Education South Sudan (GESS) project, while the government is responsible for other levels.	Capitation grants consist of a lump sum, plus an amount per child enrolled. In 2021, the rates were 43,000 SSP for a primary school plus 500 SSP per child enrolled, and 86,000 SSP for a secondary school, plus 1,000 per student enrolled.
		Teacher incentives are provided as a top-up to salaries specifically for teachers to compensate and incentivize the profession.	Teachers' incentives are a fixed amount. The EU impact project was paying USD 40 every quarter to over 30,000 primary teachers between 2017 and 2021.

Source: Created by the author based on GoSS Budget 2021/22.

present threats in South Sudan, create evident barriers for the physical displacement needed by county and payam staff to collect funds monthly. Furthermore, this travel necessitates the consumption of valuable resources for transportation and fuel, which represents an inefficiency in the system. While the traditional system of bank transfers may not be possible in South Sudan because a lot of financial infrastructure was destroyed during the war, alternatives to this current system should be explored, particularly opportunities around mobile money which have proved a viable solution in similar contexts (See USAID mSTAR, Liberia or Umwalimu SACCO, Rwanda).

4.1.6 Transfers to the decentralized levels: Dominance of county-level spending

Most of MoGEI expenditure is executed at the decentralized levels in the form of transfers, representing 82% of all expenditures in 2021/22. Of this, 75% is allocated to the county level, while 6% is allocated to the state level. This is reflective of the fact that primary teachers' salaries, which make up a large proportion of overall expenditure, are allocated at the county level. This trend has been relatively consistent since 2015/16, with only 2018/19 standing out due to its low levels of allocation to the central level. While the reasons for 2018/19 being an outlier in terms of centralized spending are not clear, they must be considered within the context of the R-CASS being signed in the same year. Furthermore, it must be noted that while most of the expenditure is allocated to the county level, the current cascading structure of transfers means that funds often remain concentrated at the state level.

Within allocations to states and counties, the largest share is concentrated in salary expenditure, representing 90% at the county level and 99% at the state level in 2021/22. At the central level, the proportion of expenditure on salaries

Table 4.7 Expenditure by administrative level (Million, SSP), 2015–2022.

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/1	2021/22
Total Expenditure							
Central government	52	107	162	99	425	446	2,435
Decentralized levels	282	301	1,050	2,232	1,742	2,549	10,862
State	54	91	194	210	297	401	842
County	228	210	856	2,022	1,445	2,148	10,020
Expenditure as % of total							
Central government	15	26	13	4	20	15	18
Decentralized levels	85	74	87	96	80	85	82
State	16	22	16	9	14	13	6
County	68	52	71	87	67	72	75

Source: IFMIS, 2015–2022.

Table 4.8 Salary and non-salary expenditure by administrative level, million SSP, 2015–2022.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2019/2021	2019/2022
Central government	**52**	**107**	**162**	**90**	**186**	**443**	**2,435**
Non-salary	20	60	106	49	291	385	1,297
Salary	31	47	56	50	38	61	161
% Salary	61%	44%	35%	56%	21%	14%	7%
Decentralized levels	**282**	**301**	**1,050**	**2,232**	**1,742**	**2,549**	**10,862**
Non-salary	73	49	335	1,041	320	454	1,049
Salary	209	252	715	1,190	1,422	2,095	9,813
State	*54*	*91*	*194*	*210*	*298*	*403*	*842*
Non-salary	10	11	22	49	74	38	11
Salary	44	80	171	160	222	363	831
% Salary	82%	88%	88%	77%	75%	90%	99%
County	*228*	*210*	*856*	*2,022*	*1,682*	*2,148*	*10,020*
Non-salary	63	38	312	992	245	416	1,038
Salary	164	172	544	1,030	1,200	1,732	8,982
% Salary	72%	82%	64%	51%	71%	81%	90%

Source: IFMIS, 2015–2022.

has decreased over time, reflecting the process of decentralization. Conversely, the proportion of county expenditure on salaries has fluctuated towards a pattern of growth over time, which can be explained by the non-payment of capitation grants in the past two financial years. Very little is spent on the functioning of schools and decentralized offices, with only 2% of expenditure in 2021/22 earmarked to cover operational costs at SMoEs and no government allocations made for the operational costs at the school level.

4.1.7 Allocation of transfers: Variable levels of funding per school

An examination of the breakdown of both county and state-level expenditure again reflects the dominance of the county in terms of funding allocation. As noted above, transfers are allocated according to the number of counties per state and the number of schools. However, this does not reflect the total number of students, and as a result, the total amount received per student had large variations across states and administrative areas, ranging from a low of 3,143 SSP per student in Greater Pibor to a high of 13,861 in Central Equatoria in 2021/22.

As with overall expenditure, state and county operational transfers did not reach 100% execution in 2021/2022. IFMIS data demonstrates that most states received the anticipated 12 transfers. However, two were rescinded. This rescinding of transfers can be due to a lack of funds at the central level. This leads to an average execution rate of 86–87% for county

transfers and 84% for state transfers. Furthermore, monthly transfer amounts varied between months in 2021/22, with 2020/2021 rates often being applied in the first months of the financial year. Greater Pibor Administrative Area and Central Equatoria state appear as outliers as both received lower than average proportions of total budgeted amounts, with Greater Pibor observing an execution rate of 48% in county operations and 34% in state operations.

Using expenditure from 2021/22, *Table 4.10* works backwards to see how the 60/40 principal was applied to county transfers. It takes 60% of the total expenditure on county operations transfers and divides it by the total number of counties in each state, and in doing so, it demonstrates how much each state should have received according to its number of counties. The remaining 40% is then divided by the number of primary and pre-primary schools in each state to reveal the amount that was theoretically allocated per school. The results demonstrate that Greater Pibor Administrative Area received below its 60% allocation per county; however, this can be attributed to the low execution rates similarly evidenced above. Due to execution rates of less than 100%, one can expect to find varying levels of spending per school; however, the variation above cannot be fully explained by this. For example, Jonglei State received significantly less per primary and pre-primary school in the area than Unity, with a range from 147,000 to 240,000 SSP per school, despite having the same levels of budget execution (87%). This may be a result of discrepancies in the total number of schools in each county and/or the discrepancies in the total received in transfers per month and suggests a need to review the county grant allocation system.

Table 4.12 applied the same method of working backwards on state operational expenditure to calculate per-school spending. According to total expenditure, each state should have received an equal share of SSP 8 million in 2021/22. This was the case in all states and administrative areas except for Pibor, which consistently appears as an outlier throughout the state-level analysis because of its lower execution rates. Similar to the county level, a wide range of per-school allocations are observed, from a low of 14,000 in Northern Bahr el-Ghazal to a high of 75,000 in Abyei.

Table 4.9 Transfers by type, state, and administrative area, million SSP, 2021/22.

	County Operations	County Salaries	State Operating	State Salaries	Total	Total Enrolment	Unit Cost
Abyei Special AA	9	49	11	8	76	16,314	4,673
Central Equatoria	95	943	17	171	1,227	88,539	13,861
East Equatoria	93	519	14	55	680	68,189	9,968
Greater Pibor AA	10	32	4	7	53	16,888	3,143
Jonglei	114	875	16	86	1,091	152,805	7,137
Lakes	102	904	15	52	1,073	183,433	5,851
North Bahr-el Ghazal	90	1,303	17	65	1,475	272,819	5,405
Ruweng AA	22	77	10	10	118	9,283	12,738
Unity	87	799	14	47	946	74,390	12,719
Upper Nile	138	565	15	60	778	107,419	7,241
Warrap	101	1,475	18	98	1,692	282,061	5,999
West Bahr-el Ghazal	55	758	14	93	920	76,769	11,989
West Equatoria	122	683	16	80	901	67,506	13,351
Total	1,038	8,982	180	831	11,031	1,416,415	7,788

Source: Authors' calculations, IFMIS, 2021/22.

Table 4.10 State and county transfers execution, 2021/22.

	County Operations			State Operations		
	Budgeted (Mn SSP)	Expenditure (Mn SSP)	Execution (In %)	Budgeted (Mn SSP)	Expenditure (Mn SSP)	Execution (In %)
Abyei AA	12	9	74	11	11	99
Central Equatoria	122	95	78	23	17	76
Eastern Equatoria	107	93	86	16	14	84
Greater Pibor AA	22	10	48	11	4	34
Jonglei	133	114	86	19	16	84
Lakes	118	102	87	18	15	84
Northern Bahr-el Ghazal	103	90	87	20	17	84
Ruweng AA	25	22	87	11	10	89
Unity	100	87	87	16	14	84
Upper Nile	160	138	86	17	15	84
Warrap	117	101	87	21	18	84
Western Bahr-el Gazal	64	55	86	17	14	84
Western Equatoria	141	122	87	19	16	84
Total	1, 224	1, 038	85	220	180	82

Source: Authors' calculations, IFMIS data 2021/22, MoGEI Budget 2021/22.

Box 2.1: Public Expenditure Tracking Survey

The Public Expenditure Tracking Survey (PETS) is the result of both quantitative and qualitative data collected by UNICEF South Sudan between December 2021 and October 2022. The PETS examines the financial year 2020–2021 and serves as a detailed review of how public spending in the education sector feeds through to schools and services. In this regard, it aids in providing a review of the delays, blockages, and bottlenecks in the education financing system.

Key findings

PETS findings help to contextualize many of the results discussed above as well as highlight the operational challenges of transfers to the decentralized levels. A key PETS finding was the lack of accountability in conditional operating transfers with only two states reporting a consistent and regular flow of transfers, where amounts reach the payam level. Five states noted grants flowed partially, meaning they didn't reach to the lowest levels of the system or that they received smaller amounts than budgeted, while five states reported no state operational transfer flow. The blockages in the flow of operating grants ranged by county with some SMoFs reporting that they did not receive the full transfer amount from the MoFP and some SMoEs stating they did not receive the correct amount from the SMoFs. Across states, a common challenge was observed in transfers from the SMoE to CEDs and PEDs. These transfers were hampered by a lack of bank accounts, with only 20% of CEDs and 8% of PEDs reporting to have functioning bank accounts.

PETS confirms EMIS findings which prove that a very small proportion of the total teaching workforce is on the government payroll, with volunteer teachers greatly outnumbering those paid by the government. Despite the recent salary raises, teachers complained that salary amounts remain too low, with increases not keeping up with inflation. Additionally, in December 2021, almost all states reported salary arrears of five to six months, with evidence from the Education Transfer Monitoring Committee confirming that MoFP does not consistently release salary transfers. Furthermore, incentives from both government and partners designed to top up low teachers' salaries were found to be insufficient and inconsistent, with PETS arguing they do not address systemic issues of low pay. Rather, schools collected fees to both pay volunteer teachers and provide an additional top-up.

Accountability and transparency were hampered by a lack of documentation processes, with PETS finding a *'near-complete absence of income, expenditure and invoice records.'* Rather, only 30% of schools, 45% of SMoEs, 20% of payams, and 10% CEDs documented evidence of financial transfers and expenditure. Payroll at the school level was more consistently found; however, staff registers were only present in 50% of CED and payam education offices.

The results of the PETS must be considered when discussing the above results as they highlight the operational realities of the transfer system. In this way, expenditure, as presented above, must be considered solely as the outflows from the government to the states, but does not guarantee that this was the exact amount received by state or counties. The absence of financial management systems clearly has a negative effect on accountability in the transfer system, which has knock-on effects on teachers' motivation and ultimately the quality of education. Furthermore, where schools do not receive adequate funding for their activities, they must turn to communities. Imposing fees on communities and parents further constrains educational access.

Table 4.11 County operational transfers theoretical distribution, 2021/22

	County Operations (Mn SSP)	Total Counties	60% County Allocation (Mn SSP)	Remaining Allocation (Mn SSP)	Number of Schools (ECE & Prim)	Enrolment	40% Spending per School (SSP)	40% Spending per Student (SSP)
Abyei AA	9	1	8	1	29	15,367	38,510	579
Central Equatoria	95	6	47	48	212	74,873	228,752	1,272
Eastern Equatoria	93	8	62	30	148	61,021	204,584	1,517
Greater Pibor AA	10	9	16	-5	59	15,811	-87,924	657
Jonglei	114	8	70	44	288	147,311	153,141	775
Lakes	102	5	62	40	331	174,794	120,656	585
Northern Bahr-el-Ghazal	90	2	39	51	539	251,032	94,238	357
Ruweng AA	22	2	16	6	35	8,556	177,622	2,547
Unity	87	13	55	32	133	68,734	240,956	1,259
Upper Nile	138	7	101	37	271	102,698	135,664	1,344
Warrap	101	3	47	54	547	263,757	99,291	383
Western Bahr-el-Gazal	55	10	23	32	153	68,184	208,135	810
Western Equatoria	122	6	78	45	231	61,847	192,823	1,979

Source: Authors' calculations based on IFMIS and EMIS data, 2021/22.

Table 4.12 State operational transfers theoretical distribution, 2021/22.

	State Operations	60% Allocation	Remaining Allocation	Number of Schools	Enrolment	40% Spending per School	40% Spending per Student
Abyei Special AA	11	8	2	33	16,314	75,109	143
Central Equatoria	17	8	9	777	88,539	35,241	101
Eastern Equatoria	14	8	5	380	68,189	28,315	79
Greater Pibor AA	4	8	-5	37	16,888	0	0
Jonglei	16	8	8	548	152,805	24,109	51
Lakes	15	8	7	487	183,433	18,786	37
Northern Bahr el-Ghazal	17	8	9	624	272,819	13,885	32
Ruweng AA	10	8	1	76	9,283	32,420	133
Unity	14	8	5	387	74,390	34,622	74
Upper Nile	15	8	6	449	107,419	21,322	60
Warrap	18	8	9	675	282,061	14,689	33
Western Bahr el-Gazal	14	8	6	429	76,769	32,810	78
Western Equatoria	16	8	8	552	67,506	28,712	116

Source: Authors' estimations based on IFMIS data, 2021/22.

4.1.8 Sub-sectoral spending: Continued dominance of primary education

Total sub-sectoral spending in 2021 constant prices is seen to have decreased in all subs-sectors except for pre-primary. Primary education dominated spending in both 2013/14 and 2021/22, representing 84% of recurrent expenditure in the last financial year. Alternative education also remained stable in terms of its share of total expenditure at 5%, while pre-primary has greatest growth, from less than 1% in 2013/14 to 3% in 2021/22. This increase in pre-primary comes at the expense of secondary, TTIs and TVET, with decreases in the total proportion allocated to all these sub-sectors. These decreases in financing have negative effects on the development of associated sub-sectors, and given that enrolment has still steadily increased, suggest that the quality of education provided is suffering as a result.

Table 4.13 Breakdown of public recurrent education expenditure, by level of education 2021/22.

	2013/14 ESA		2021/22	
	In Million SSP 2021 Constant Prices	As % of Total	SSP Million	As % of Total
Pre-Primary	109	0.4	418	3.4
Primary	22,733	79.6	10,350	84.2
AES	1,436	5.0	604	4.9
Secondary	3,771	13.2	864	7.0
TTIs	409	14	26	0.2
TVET	91	0.3	22	0.1
Total	**28,549**	**100.0**	**12,283**	**100.0**

Source: Authors' calculations based on IFMIS data, 2021/22.

4.1.9 Public expenditure per learner

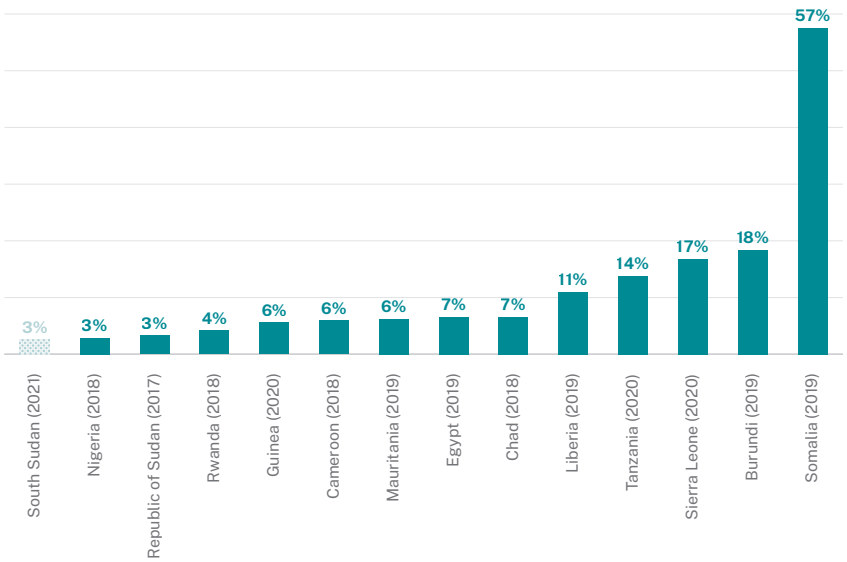
Transfers to decentralized levels are sent as blocks and, therefore, do not identify the amount allocated for primary teachers' salaries versus pre-primary teachers' salaries within county transfers, for example. This type of system has been blamed for under or non-payment of teachers in certain sub-sectors,

Table 4.14 Public unit expenditure by level of education, 2021/22

Level of education	Enrolment in public institutions	Salaries	Goods and services	Grants and transfers	Total RE	Cost per Student SSP	Multiple of primary UC	Multiple PCGDP
Pre-Primary	72,077	299	57	62	418	5,799	0.7	2%
Primary	1,241,908	8,292	990	1,068	10,350	8,334	1	3%
Secondary	45,076	789	36	39	864	19,166	2.3	6%
Alternative Education	56,357	547	9	48	604	10,713	1.3	3%
TVET	451	22	0.1	0	22	48,420	5.8	16%
TTI	546	26	0.1	0	26	59,473	7.1	19%
Total	1,416,415	9,974	1,128	1,218	12,320	8,673	1	3%

Source: Authors' calculations based on IFMIS and EMIS data 2021/22.

Figure 4.8 Primary Education Unit Cost as % of GDP/capita, select countries and years



Source: IIEP-UNESCO Database, 2023. Authors' calculations based on IFMIS and EMIS data 2021/22.

Table 4.15 Public Unit Expenditure by Level of Education, 2013/14 and 2021/22

	2013/14 ESA			2021/22		
	Cost per student in SSP (Constant 2011)	Multiple of PCGDP	Multiple of primary UC	Cost per student in SSP (Constant 2011)	Multiple of PCGDP	Multiple of primary UC
Pre-Primary	3,816	1%	0.2	5,799	2%	0.7
Primary	23,715	7%	1	8.334	3%	1.0
Secondary	130,658	39%	5.5	19,166	7%	2.3
AES	10,994	3%	0.5	10,713	4%	1.3
TTIs	2,516,212	751%	105.9	48,420	6%	5.8
TVET	30,620	9%	1.3	59,473	6%	7.1

Source: South Sudan ESA, 2018. Authors' calculations based on IFMIS and EMIS data, 2021/22.

particularly alternative education. As a result, without detailed expenditures at the county and state levels, we are unable to identify sub-sectoral spending levels. The following analysis of sub-sectoral spending is based on an estimation which is drawn from the number of students and the number of teachers on the government payroll to produce figures of overall spending per level.

Estimations indicate that pre-primary education has the lowest unit expenditure among sub-sectors at less than 6, 000

SSP per student enrolled in public primary schools. Conversely, TTIs and TVET have the highest, with costs 5.8 and 7.1 times those in primary respectively. The relatively high costs associated with TVET, and teacher training can be explained by the specialist materials needed for these levels as well as the higher proportion of teachers on government payroll that are similarly observed.

Comparing per student expenditure from the 2013/14 ESA to 2021/22 in 2021 constant prices shows that spending has decreased across most levels, with only pre-primary increasing significantly. Decreases were greatest in secondary and TTIs with per-student spending decreasing from more than seven times of the GDP per capita to 6% in TTIs and from 39% to 7% at the secondary level. This decrease in per-student TTI spending can be explained by a tripling of students enrolled (163 in 2013/14 to 434 in 2020/21) alongside a decrease in total expenditure in this sub-sector. Overall, this analysis suggests that less is being spent per student in 2021/22 than was spent in 2013/14.

In comparison to other sub-Saharan African countries, including those similarly affected by conflict, South Sudan is the lowest in terms of spending per primary student as a proportion of GDP per capita at 3%. Specifically, South Sudan can be compared to its neighbouring and post-conflict state of Burundi which reported 18%. This underlines the key finding that the education system in South Sudan is severely underfunded, which poses a major challenge in both improving the low quality of education similarly being offered and expanding the system to reach the large out-of-school population.

4.2 Private spending on education

Government spending on education is complemented by financing from private sources, that is, households and development partners. In contexts such as South Sudan, where the government does not have the fiscal space to cover all costs of education, these actors often make significant contributions. The private sector can also contribute to educational provision directly through the operation of private schools (see *Chapter 2*) or indirectly through in-kind donations, pupil sponsorship, or public-private partnerships. However, there is a lack of sufficient data to discuss these actors' involvement in education financing in South Sudan.

4.2.1 Household spending: Education costs a high proportion of household income

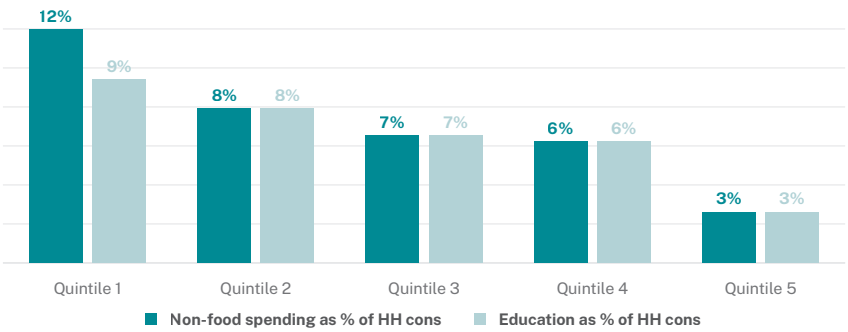
Households of school-going children contribute financially to education through direct costs, in the form of school fees, and indirect costs, through payments for elements such as uniforms, stationery, or transportation. According to data from the 2017 High Frequency Survey, most household expenditures in South Sudan are concentrated on food items at 86%. This is reflective of the high levels of poverty in the country, wherein most expenditure is spent on meeting basic needs. Comparatively, only 5% of total expenditure was spent on education, or 34% of all non-food expenditure, representing a relatively large proportion of consumption outside of food. Additionally, given the low levels of enrollment (see *Chapter 2*), it is necessary to note that many households do not spend on education simply because they cannot afford to have a child enrolled, which brings down

Table 4.16 Total household expenditure by type, 2017

	Proportion of expenditure
Non-food spending as % of HH consumption	*14%*
Education as % of HH consumption	*5%*
Education as % of non-food consumption	*34%*

Source: Authors' calculations based on HFS data, 2017

Figure 4.9 Proportion of household expenditure by type and wealth quintile, 2017



Source: IIEP-UNESCO Database, 2023. Authors' calculations based on IFMIS and EMIS data 2021/22.

Table 4.17 Educational access cost by type and level, 2021.

	Average school fees	Exam fees	Basic supplies	Total
Primary	52	16	76	144
% of GDP/capita	7	2	10	20
Secondary	140	29	99	268
% of GDP/capita	19	4	13	36

Source: Authors' calculations based on PETS data, 2022 and MoF data, 2022.

the proportion spent on education. This is supported by the large proportion of expenditure on food items, where families only have 14% of their total income to allocate to non-food items, which may include necessities such as clothing, rent, and personal hygiene products.

Figure 4.9 demonstrates the proportion of total expenditure allocated to non-food, food, and education expenditure by wealth quintile, with quintile one representing the poorest populations and five the wealthiest. Households with the lowest levels of household consumption spend a larger proportion of both their total consumption and more notably their non-food consumption on education. This suggests that the burden of both indirect and direct costs associated with education weighs heavier on the poorest and most disadvantaged, further preventing them from accessing educational services.

The PETS report gathered data regarding costs associated with educational attendance in public institutions from head teachers. The results, as presented in *Table 4.17*, demonstrate that despite the commitment to fee-free primary education as outlined in the constitution, there are still many direct and indirect payments that are expected from parents of children at the level. In public institutions, direct school fees are disguised under different names such as registration fees or PTA fees. At the primary level, basic school supplies are the costliest element at USD 76, while school fees averaged at USD 52 and exam fees at USD 16. Average school fees are more than 2.5 times higher at the secondary level at USD 140. Considering this in the context of the 2021 GDP/capita of USD 738, total costs for primary education access represent a fifth of GDP per capita, while secondary costs represented 36%. Given that the average family size in South Sudan is between five and six children, this highlights the difficult decisions families must take when deciding which of their children, if any, they are financially capable to enrol or send to school. It further demonstrates the elevated financial burden of secondary versus primary education, which may help to explain why lower numbers of enrolled students are observed at this level.

4.2.2 Development partner spending in education

Alongside households, development partners have a huge presence in South Sudan, both in development and humanitarian activities. These development partner activities represent large quantities of off-budget educational support. While attempts were made to gather this information from relevant partners in South Sudan, they were largely unsuccessful. As a result, what is presented below reflects only the Girls Education South Sudan project and not all donor commitments.

4.2.2.1 Girls' Education South Sudan: Project spending rivaling that of the government expenditure

The Girls' Education South Sudan programme has been operating in the country since 2014 and represents the largest educational intervention in the country, both in terms of scope and financing. The first phase of the programme lasted from 2014–2018 and following positive results, welcomed new donors for the second phase (GESS2), which is set to be implemented from 2018–2024. The GESS2 programme has five main components, two of which relate directly to financing in the form of direct financial support to girls through cash transfers and capitation grants for flexible use by schools. The GESS programme represents a significant additional financial contribution to education, with funds directed through the project rather than the government itself and, therefore, not accounted for in national financial documents.

One feature of financial support to secondary schools under the GESS

Table 4.18 Cash transfers to girls, GESS, 2021.

	Total Girls Paid (Primary and secondary)	Total value paid (SSP)
Central Equatoria	73,203	445,709,600
Eastern Equatoria	25,761	152,384,400
Jonglei	34,807	202,104,000
Lakes	56,754	331,304,400
Northern Bahr-el ghazal	56,387	329,523,600
Upper Nile	26,282	151,208,400
Unity	47,028	269,477,600
Western Bar-el-Ghazal	34,640	203,117,600
Western Equatoria	29,769	174,829,200
Warrap	54,696	317,066,400
Total	**439,327**	**2,576,725,200**

Source: GESS data, 2021.

Table 4.19 GESS Capitation grants by state, 2021.

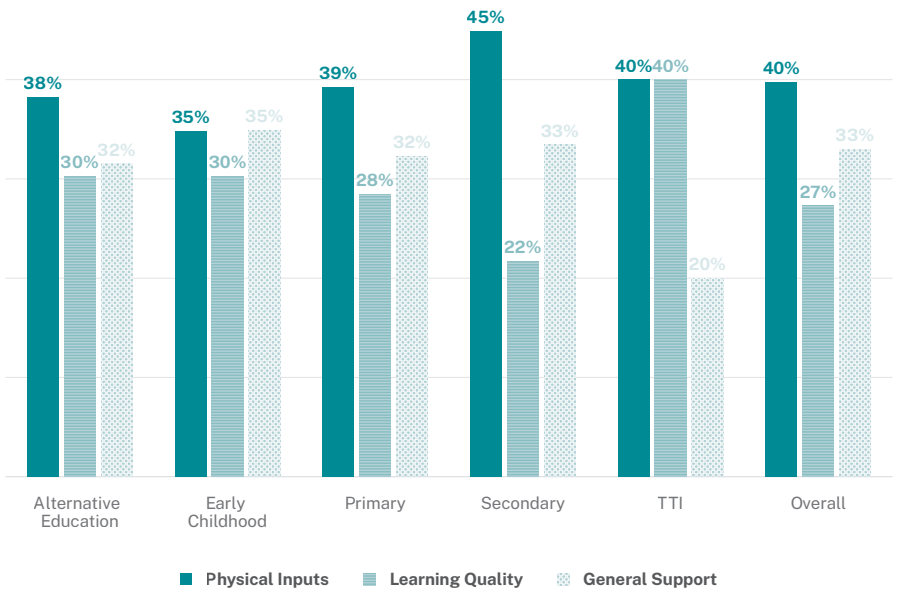
	Total schools	Total amount received	% Received tranche 2
Aberi	4	1,600,000	100%
Central Equatoria	80	30,473,100	16%
Eastern Equatoria	25	8,906,200	24%
Jonglei	27	10,669,800	48%
Lakes	25	11,263,300	52%
North Bahr-el-Ghazal	29	13,623,000	66%
Pibor AA	1	353,000	100%
Ruweng AA	4	2,610,600	50%
Upper Nile	26	5,666,100	46%
Unity	16	7,259,000	100%
Western Bahr-el Ghazal	40	17,539,300	73%
Western Equatoria	38	12,208,600	58%
Warrap	34	18,573,700	82%
Total	349	140,745,700	51%

Source: GESS data, 2021.

programme is cash transfers to girls. In 2021, these transfers were valued at 5,600 SSP for girls in primary years five to eight, and 8,400 SSP for girls in secondary years one to four. Over 400,000 girls were supported with cash transfers in 2021, for a total value of over 2.5 billion SSP. This represents almost 20% of total MoGEI expenditure in 2021/22 at 13 billion, evidencing the substantial levels of support that development partners provide in the functioning of the education system in South Sudan.

In addition to cash transfers, the GESS project manages capitation grants for eligible public and community schools across the country. GESS is only responsible for paying secondary school capitation grants; however, the project gathers data from all schools including their budgets, accounts, enrolment, and attendance to evaluate whether schools meet minimum criteria to receive capitation grants. This is done so that the government will then provide capitation grants to schools at other education levels with only the approval and accountability process managed by GESS. In 2021, the GESS project paid capitation grants to 349 secondary schools, totalling over 140 million SSP. Capitation grants are split into two tranches, with the first representing 70% of the total amount to be received and the second the remaining 30%. However, the second tranche is dependent on accountability from the school, most importantly accounting for expenditure from the previous tranche. Only 51% of these 349 schools ended up

Figure 4.10 School budgets by expenditure area, GESS, 2021.



Source: GESS School Budget Proposals, 2021.

receiving the second tranche of funding in 2021 because of missing accountability documents.

As a part of the verification process, GESS collects school budgets that indicate how capitation grant funding would be spent if received. These expenditure items are grouped into three categories: physical inputs such as construction and renovation; learning quality such as textbooks and learning materials; and general support such as volunteer teacher salaries. Across education levels, physical inputs were the greatest priority for school-level investments, with this representing 45% of budgeted expenditure for secondary schools. This was followed by general support and then by learning quality reflecting that the priority lies with paying volunteer teachers over purchasing materials for students. While this does not represent actual expenditure, it gives us an idea of how capitation grants are spent and what schools consider to be priorities.

4.3 Chapter summary: Improvements hampered by inflation and still not matching international standards

The evolution of educational expenditure in South Sudan shows some promise, while also evidencing a need for continued and intensified growth. Education expenditure in current prices has increased significantly, particularly in the past two years. However, due to high levels of inflation and associated currency devaluation, MoGEI expenditure in 2021/22 is lower than it was in 2015/16. The proportion of overall recurrent expenditure allocated to education has increased overtime despite it remaining below international standards. This is a positive sign in terms of the financial commitment to education in South Sudan; however, improvements still need to be made.

MoGEI's biggest expenditure is spent on wages and salaries, especially at the state and county levels, leaving little funding for the functioning of the educational administration, including the improvement of infrastructure. Expenditure is concentrated at the decentralized levels, most notably the county level, where primary and pre-primary teachers' salaries are paid from. No allocation has been made to school capitation grants on the part of the government in the past two fiscal years, indicating the constrained ability of schools to make quality improvements such as infrastructure and materials. Besides salaries and transfers, MoGEI's expenditure is concentrated on school feeding and the purchase of supplies for administrative purposes.

Despite the high levels of financial commitments to the decentralized levels, accountability remains a major issue, particularly due to the limited capacity to enforce accountability measures. The PETS has highlighted that much of this expenditure does not reach its intended beneficiaries in practice, with the lowest levels in the chain suffering the most. There have been efforts to rectify this issue with the shift of responsibility from the SMoF to the SMoE and the creation of education transfer monitoring committees. It is not yet clear whether these changes have helped to improve the transfer of funds and accountability at the decentralized levels, but further PFM measures and strengthening will be necessary for the system to function appropriately.

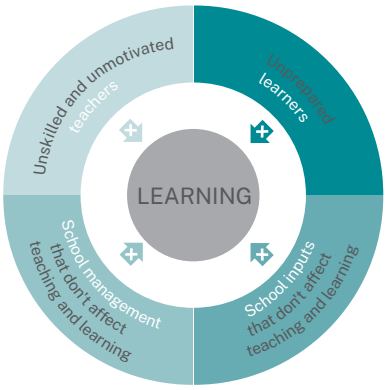
An examination of sub-sectoral spending reveals the dominance of primary education; however, costs per student at this level remain lower than all others, with secondary and TVET representing the highest costs. Unit costs are low as a proportion of GDP and have largely decreased since the last ESA evaluated 2013/14 data. The low levels of funding commitments from the government necessitate the intervention of households and partners in financing the education system. The cost to households associated with enrolling a student in primary or secondary education is elevated, especially when compared to GDP per capita. This can help to explain the low levels of enrolment, particularly at the secondary level, observed in *Chapter 2*. Development partners similarly step in to fill the financing gaps, with the GESS programme alone representing a huge off-budget contribution to education.

Chapter 5
Management of quality of education

Quality education is not only a fundamental right but has been proven to be a catalyst for socio-economic development and individual empowerment. This chapter scrutinizes the context where implementation of education programs takes place, responding to the question of availability of resources and their distribution to influence educational outcomes. The chapter delves into the multifaceted dimensions of education quality, encompassing not only academic achievement but also equitable allocation of resources to ensure reasonable outcomes for learners while appreciating the resource limitations in the country. This chapter seeks to illuminate key determinants, successes, and areas in need of improvement within the complex landscape of education quality and resource management.

5.1 Introduction

'A child born in South Sudan today will be 31% as productive when s(he) grows up compared to if s(he) could be if s(he) enjoyed complete education and full health.' This is the verdict from the Human Capital Index (World Bank, 2020) on the state of human development in South Sudan. The Human Capital Index (HCI) is a composite metric computed from six base indicators (*Table 5.1*), three of which are drawn from the education sector, that is, expected years of school, harmonized test scores, and learning-adjusted years of school. The other three indicators have an indirect influence on and from the education sector. From the results, nine in 10 children born in South Sudan live to see their fifth birthday; nearly seven in 10 are not stunted, meaning the majority have a chance to learn effectively; out of a possible twelve years of education, the average schooling years in the country is under five years, which is reduced to less than three years when considering the amount of learning taking place in schools. It is clear from the HCI that education has a great influence on the productivity of adults when factors that matter in education are well aligned. Limited learning alone reduces the schooling efforts by half and as a result, managing learning is an important aspect to focus on in the HCI discussion.



Source: World Development Report, 2018

The factors that affect learning are aptly discussed in the World Development Report (World Bank, 2018). They include the level of preparedness of learners when they come to school, availability and appropriateness of school inputs, the qualification and motivation of teachers to teach learners, and the organization of schools to ensure that school resources are coherently aligned to ensure learning takes place for the learners who manage to come to school.

Table 5.1 Human Capital Index in South Sudan, 2020

Indicator	Values
Survival to age five	0.9
Not stunted rate	0.69
Expected years of school	4.7
Harmonized test scores	336
Learning-adjusted years of school	2.5
Adult survival rate	0.68
Human Capital Index	**0.31**

Source: Human Capital Project, World Bank, 2020

This chapter presents an analysis of key elements in the management of quality education in the country. The analysis is predicated on the overall efficiency of the education system founded on three aspects. The first is the availability and implementation of key educational policies and curricula. The focus here is to establish whether the purpose and overall objective of education in the country are clearly articulated; whether there are deliberate steps to operationalize the purpose and objectives through clear strategies in a credible sectoral plan; and whether the strategies define the education quality programmes that are to be implemented at each level of education; and finally, availability and the extent to which the education curriculum is implemented. The second aspect of the analysis is on pedagogical practices, focusing on teacher management from pre-service teacher training to teacher recruitment and deployment; availability of teaching and learning materials; teaching and learning conditions; access to key amenities that facilitate learning; assessment of foundational learning and performance in terminal examinations. The third aspect of the analysis covered the organization of the education system at centralized and decentralized administrative levels, looking at the structure of the ministries and the associated personnel; and the existence of pedagogical agencies to support the implementation of the curriculum. The results presented in this chapter are based on a desk review of various laws and policies in the education sector; discussions with various departments in charge of the management of quality in the country; as well as administrative data on curriculum materials, teachers, and administration of national examinations.

5.2 Availability of education policies and curriculum to guide the delivery of quality education

The philosophy, purpose, and overall objectives of the education system are clearly articulated in the General Education Law**.** The Government of South Sudan is among the countries that have ratified the provisions of 'inclusive and equitable quality education and life-long learning opportunities for all'. Even though the country has found itself in a period of protracted civil strife, the intention to ensure that children eligible for school receive an education is quite clear in the key laws of the land. The General Education Act (GEA), 2012, enacted a few months after the country's independence in 2011, provides a framework of education goals, which include the desire to: (i) eradicate illiteracy, improve the employability of young people and adults and promote lifelong learning for all citizens; (ii) provide equitable access to learning opportunities for all citizens to redress past inequalities in education provision; and (iii) enhance the quality of education and encourage a culture of innovation, continuous school improvement, and effectiveness. Concerning the vision of quality education, an entire chapter of the GEA is dedicated to outlining the key tenets of quality. Chapter 4 of the GEA defines the standards for quality education, such as the school calendar, which provides for the duration[33] of learning during a given school year; the establishment of school-based examinations and/or assessment to facilitate dialogue and decision-making on progression of learners between grades in a given education cycle; end-of-cycle examination administered by the National Examination Council (NEC) to facilitate the movement of students between cycles of education (for instance, between primary and secondary); establishment of a centre for curriculum development to spearhead the development of the school curriculum and associated teaching and learning materials; the language of instruction at different levels of education, appreciating the need for learners to begin learning from the known to unknown, where the use of indigenous (national) languages is recommended with the exception of urban areas where schools/teachers have the autonomy of choosing appropriate languages of instruction. The law also provides for the establishment of a school inspection mechanism to ensure that the delivery of school programmes is assured.

Although the GEA provides for 210 school days in the year, conflict and natural hazards undermine the fulfilment of this to the learners. As discussed in *Chapter 2*, long wet spells affect school attendance resulting from difficulty in accessing schools. The rising temperatures in the country can also affect attendance. Due to such events, fulfilling the 210 school days or 1,260 hours during a school year has not been practical in recent years, including during the COVID-19 pandemic, when the normal school programme was disrupted. After months of disruptions, schools returned to the normal calendar through the Guidelines for opening schools in South Sudan for the academic year 2023, dated 4th January 2023. Pope Francis's visit to Juba in February 2023 also gave hope that different parties to the R-ACRSS would abandon their ultimatums. These two events are seen to improve the possibility of fulfilling all the school time for learners across the education spectrum.

33 The General Education Act, 2012 provides for 210 school days spread over a nine-month period.

The GEA 2012 provisions on the language of instruction are further elaborated in the National Learning and Teaching Materials (LTM) Policy, which recommends the use of national mother tongue languages in pre-primary, Grades 1–3 of primary and levels one and two of the accelerated learning programmes. The policy further instructs that English be used as the language of instruction for Grade 4 of primary onwards. The benefits of early-grade learning in the mother tongue are well-documented (GPE, 2014; Akintunde, 2021; UNESCO, 2022) and it is without wonder that the LTM policy recommends their use. Out of the 51 recognized national languages, two-thirds have established orthography, which means they can be applied in learning instruction. The deficit of 17 languages would still need to go through the orthographic projection to ensure that they can be applied. Apart from these languages that have no recognized orthography, urbanization and interaction between tribes normally come with language compromise, which makes instruction using a mother tongue impractical. Moreover, the development of learning and teaching materials in multiple languages has huge cost implications, which remains the largest barrier to the implementation of this essential provision of the policy.

At the strategic level, the General Education Sector Plan[34] (2017–2022) contained carefully defined strategies to operationalize provisions of the GEA, 2012, especially on the delivery of quality education. Among the programmes of the GESP was a quality programme, which was aimed at providing equitable and relevant quality education with knowledge, skills, and values to meet the different needs of learners for them to be productive, innovative, and responsible citizens and lifelong learners. In addition to this strategic intention, the plan had operational strategies for achieving this objective, including (i) implementation of the then newly adopted curriculum; (ii) addressing challenges around teacher professional development, appreciating the low levels of qualification of the teachers who were in the workforce then; (iii) revamping school inspection, supervision, and overall school management; and (iv) establishing systems for measuring learning to ensure assessment was not waiting until the end of a given cycle to establish levels of learning.

Implementation of the GESP, including implementation of quality-related programmes, faced a myriad of challenges that left the intended objectives unmet. Some of these factors include the disruption of public operations because of the COVID-19 pandemic; the disruption of international oil supplies, which affected the country's revenue, thus affecting the level of resources that were available for public intervention. The consequences of these factors are manifested in the perpetuated low teacher qualification and limited attention to school inspection. Implementation of the curriculum, as discussed in the next section, continues to face learning materials shortage challenges, while there is hardly any movement on the establishment of the low-stake learning assessment system.

34 The most recent General Education Sector Plan for South Sudan was prepared for the period 2017–2022 https://www.globalpartnership.org/sites/default/files/general_education_strategic_plan_south_sudan_2017-2022.pdf

Table 5.2 Goals of the South Sudan National Curriculum Framework

Goal	Expectations from learners associated with the goals
Good citizenship	• To be patriotic and proud of the rich culture and heritage of South Sudan. • Become active participants in society for the good of themselves and others. • Foster unity, democracy, human rights, gender equity, peace, and reconciliation with each other. • Become global citizens who will be proud of South Sudan's role and position in the world in the twenty-first century.
Lifelong learning	• Become literate, and numerate, and develop a keenness to learn. • Develop an ability to learn independently and with others. • Become proficient in the key competencies of the subjects offered in the curriculum. • Embrace lifelong learning to ensure that they can acquire and reproduce knowledge at whatever age.
Creativity and productivity	• Develop enterprising skills and become creative problem-solvers. • Willing to exert the effort that is necessary to succeed in any given field. • Ability to relate well and understand the concerns of peers. • Diligent, resilient, and persistent in their attitude to work.
Environmental responsibility	• Committed to sustainable forms of development. • Aware of the fragility of the environment, and the importance of environmental sustainability to life and prosperity. • Appreciative of the need for everyone to work together to preserve the environment for the common good and future generations.

Source: Curriculum Framework, South Sudan

There is a relatively new competence-based curriculum framework with practical pillars that present a practical chance of finding long-lasting peace for the people of South Sudan**.** A curriculum provides schools (learners, teachers, heads of schools, community) with a roadmap for the delivery of quality education, and facilitates the definition of learning standards and competencies expected of learners at the end of a defined school period (grade, cycle, level etc.) The standards and competencies expected from learners in institutions associated with general education are governed by the South Sudan National Curriculum (MoGEI, 2015), whose development was spearheaded by the Centre for Curriculum Development, an agency created by the GEA, 2012 to oversee the preparation of curriculum and curriculum support materials. The curriculum framework responds to the independence vision of influencing socio-economic development in the country. Developed at the end of a protracted civil conflict between South Sudan and The Sudan, the curriculum puts the identity of the citizens of South Sudanese at its centre, with the hope that the curriculum can foster 'peace and prosperity, growth and development, harmony and justice through an education firmly rooted in the rich culture and heritage, which can develop the children and youth into true citizens of the world' (MOEST, 2014). The curriculum was commissioned for implementation in 2018.

The curriculum framework established four goals of good citizenship, not just for South Sudan but also the globe, with the intention that children born in South

Table 5.3 Pillars of the South Sudan Curriculum Framework

Pillar	Details
Values and principles	**Values:** Human rights and gender equity, respect and integrity, peace and tolerance, compassion and social justice, democracy, and national pride **Principles:** A culture of excellence in innovation and creativity; empowerment to independence, individual learning, critical thinking, problem-solving, and emotional intelligence; heritage and culture building national pride and identity; the spirit of hope, respect, peace, reconciliation, unity and national pride, democracy, and global understanding
Culture and heritage	Knowledge and appreciation of heritage and culture enable young people to develop into active and responsible citizens, critical for developing strong identities. People learn best when the curriculum is set within their own experiences, locations, and cultures
Student competencies	**Critical and creative thinking:** Plan and carry out investigations, sort and analyse, suggest and develop solutions, and evaluate solutions. **Communication:** Critical reading and comprehension, fluent writing, clear speech, use of a range of media, technologies, and languages. **Cooperation:** Collaborative working, showing tolerance, behaviour adaptation, negotiation skills and contribution to environmental sustainability. **Culture and identity:** Pride in South Sudanese identity, build an understanding of South Sudanese heritage. Appreciate and contribute to the development of South Sudanese culture and respect for diversity.
Areas of learning	**Early childhood:** Language; Mathematics; outdoor and physical; environmental, personal and social; creative, music; religious education **Primary (1–8):** Required: National Language, English, Mathematics, Religious Education, Science, Social Studies, The Arts and Physical Education with Arabic from P5. **Lower secondary (1–2):** Required: English; Mathematics; Religious Education; Citizenship; History; Geography; Physics, Chemistry and Biology. Options: Two options from a menu. School programmes: (eg, guidance, sports, personal development) **Upper secondary (3–4):** Required: English; Mathematics, Religious Education; Citizenship. Options: Three options from a menu. School programmes: (eg, guidance, sports, personal development)

Source: Curriculum Framework, South Sudan

Sudan should be taught to appreciate their heritage and take their rightful position in the international space. The second goal is lifelong learning, which envisions the eradication of illiteracy, and fostering competence among the children and general populace of South Sudan. This pillar is further sustained by the Accelerated Learning Programmes Curriculum[35] for learners who cannot fit into the mainstream education system, especially children in cattle camps.[36] The third and fourth goals of the curriculum

35 A Guide to Implementing the New Curriculum for Accelerated Learning Programmes (ALPs) https://www.curriculumfoundation.org/blog/wp-content/uploads/SS-ALP-Curriculum-Guidance.pdf

36 https://www.reuters.com/article/us-southsudan-education-cattle-idUSKBN1GV00J https://www.wvi.org/stories/south-sudan/fao-and-world-vision-take-campaign-childrens-education-south-sudans-cattle

framework are creativity and productivity as highlighted in *Table 5.2*

The curriculum framework is also founded on four critical pillars that acknowledge values, heritage, and expected competencies with a distinct organization of areas of learning. The curriculum provides clear differentiation in the way subjects are to be learnt by different age groups as reflected in the subject models (see *Table 5.3*).

Beyond the adoption of the curriculum framework, the GEA, 2012 also provides for the establishment of the National Curriculum Development Centre (NCDC) responsible for curriculum development, publication, and provision of advice on teaching material for ECD, Primary, AES, Secondary, and TVET. At the policy and strategic level, analysis has established that there is an adequate and deliberate definition of the vision of quality education accompanied by the definition of key standards and expectations of learners. The subsequent sections will go beyond the planning provisions and delve into the practice and what happens in schools concerning the existence of curricula and the extent to which resources in schools affect or effect their implementation.

5.3 Resources for and processes of curriculum implementation in general education

This section assesses the extent to which resources are provided in schools to support the implementation of the curriculum. The question of teachers and teaching is the centre of focus and a key foundation of the analysis in this section. This section assesses the capacity of the teacher preparation system in the country, the composition of the teaching staff in terms of gender and qualifications, and the distribution of teachers. Apart from teachers, the section also covers learning materials, discussions around the textbook policy, and the extent to which the present supply of books to schools follows the policy. It also includes teaching and learning conditions: class size, access to key amenities as well as evaluation of learning and performance in examinations.

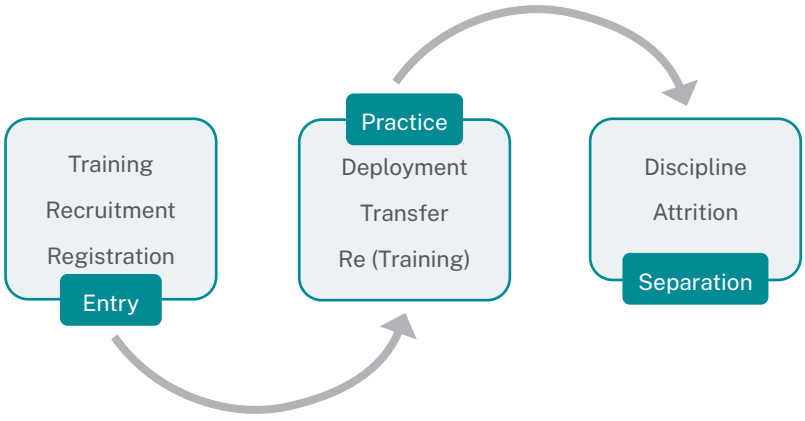
5.3.1 Teachers and teacher management

Teachers are one of the most important resources in an education production function, where learning is the expected output. Teachers, other learning materials, and the learning environmental factors are the determinants of learning. In this respect, the question of teachers, their availability, and their use in the education system becomes a key focus in the assessment of the provision of quality education. Teacher management is analysed in the three broad aspects of entry, practice, and separation as illustrated in *Figure 5.1.*

5.3.1.1 Teacher training recruitment and registration

The capacity of teacher training institutions remains inadequate to address qualified teacher needs in general education**.** The first and foremost question when it comes to teacher management is the capacity of teacher supply to the education system. Desk review and analysis of the Annual Education Census, together with discussions with the Directorate of Teacher Management Services highlights that teacher training is conducted in Government- or Non-Governmental

Figure 5.1 Teacher management framework in South Sudan



Source: Authors' framework

Table 5.4 Teacher trainees in teacher training institutes, 2018 and 2021

Programme	Male	Female	Total	% Female
2018	145	37	182	20.3
Pre-service certificate	105	27	132	20.5
In service certificate	40	10	50	20.0
2021	855	302	1,157	26.1
Pre-service diploma	40	34	74	45.9
Pre-service certificate	295	65	360	18.1
Other certificates	35	35	70	50.0
In service certificate	485	168	653	25.7

Source: Curriculum Framework, South Sudan

Organization (NGO)-led Teacher Training Institutes (TTI), offering pre-service and in-service certificates and diplomas. According to administrative data available at MoGEI, the capacity of the existing TTIs is inadequate to meet the teacher workforce demands, and this has been a persistent challenge for the sector.

There were only three operational TTIs in the country in 2021 (MOE, 2022), with majority of the states and administrative areas lacking TTIs, a situation which does contribute to equity concerns in the country. The TTIs combined enrolled about 1,160 trainees in 2021, a six-fold increase from 180 three years earlier, with this increase seen to be driven by a large increase in the trainees pursuing in-service certificates. More than half of the teacher trainees in 2021 are in this category (see *Table 5.4*). Gender composition in the TTIs shows that while there has been a six-percentage point improvement in the share of female teacher trainees, teaching remains a male-dominated field, with this even more pronounced in the number of serving teachers (discussed later). Overall, the number of trainees enrolled in TTIs highlights the limited capacity of the training system especially when compared to the number of learners expected in school in the future. (See *Chapter 1*). *Chapter 3* highlighted that about 60% of children eligible for school in the primary and secondary reference ages were out of school, and with plans to have them come to school being a priority to the government and education stakeholders, there is certainly a concern on whether the capacity of the TTIs would meet future teacher needs. The capacity of the TTIs is also limited when considering the need to upgrade practising teachers, the majority of whom are not qualified to teach.

A myriad of challenges confronting teacher trainees before being ready for practice compounds the challenge of the limited capacity of TTIs. The journey to becoming a practising teacher in South Sudan is long and winding. Prospective teachers must contend with the limited spaces in TTIs, and for those who are fortunate to get an opportunity to enrol, there are further hurdles to becoming teachers. For example, there is limited government input in financing teacher training, which means that teacher

trainees have to foot some of the costs of their training, including the payment of salaries of instructors. This is the case not just in private TTIs but also in public, where less than half of the instructors are on the government payroll. Also observed is the widespread dropout from pre-service training due to the general insecurity in some parts of the country, and specifically the long distances to the only available TTIs, which contribute to safety concerns for the trainees. There are few female instructors in TTIs – out of the 121 instructors in TTIs in 2021, 18 (15%) were female – a trend that is sustained in the teacher workforce, meaning that only the few female teachers who graduate from the TTIs must bear the burden of being role models to promote gender equity in the education system. Trainees must contend with low qualifications of instructors, with one-third of instructors having secondary or lower academic qualifications. The risk is that even for teachers who graduate from the TTIs and have certificates issued, the qualification may just be on paper; they would struggle to meet the expected pedagogical and content competencies. Finally, the prospects of joining a service that is known for infamously poor and irregular teacher pay certainly affect the development of teacher morale.

5.3.1.2 Profile of practising teachers

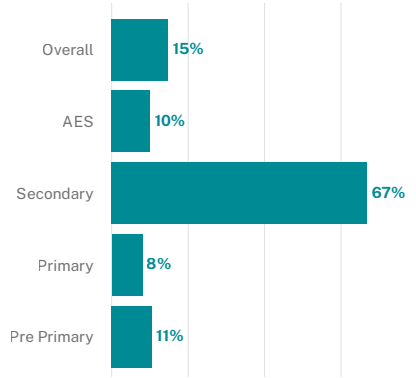
There is an acute shortage of qualified teachers in general education, which has a direct effect on the quality of instruction. The 2021 ASC revealed that of the nearly 61,000 teachers across pre-primary, primary, secondary, and AES, nearly 8 in 10 were teaching in primary schools. In terms of academic qualification, these teachers had bachelor's degrees, diplomas, secondary, and primary certificates. According to the Civil Service Act, 2011 and teacher management guidelines, teachers in pre-primary, primary, and AES are expected to have at least a secondary certificate, while teachers in secondary are expected to have at least a bachelor's degree (MoGEI, 2022). Against these benchmarks, more than 80% of teachers deployed in pre-primary met the requirements; seven in 10 teachers in primary; less than half of teachers in secondary; and nearly three in four teachers in secondary.

Table 5.5 Academic qualification of practising teachers in general education, 2021

	Pre-primary	Primary	Secondary	AES	Overall
Degree	120	1,482	3,116	129	4,847
Diploma	306	2,295	1,327	198	4,126
Secondary certificate	2,948	28,695	1,971	2,039	35,653
Primary certificate	572	12,351	23	729	13,675
Other	92	1,959	207	152	2,410
Total	4,038	46,782	6,644	3,247	60,711
% of teachers meeting requirements	83.6%	69.4%	46.9%	72.9%	

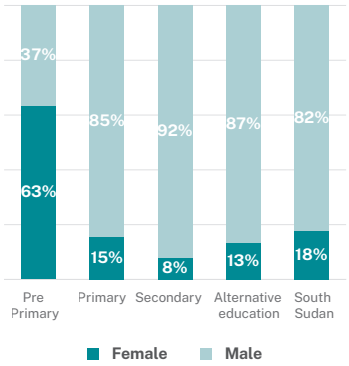
Source: Annual Schools Census, (MoGEI, 2021)

Figure 5.2 Percentage of teachers in general education with a diploma, 2021



Source: Annual Schools Census, (MoGEI, 2021)

Figure 5.3 Composition of teacher workforce in general education by sex, 2021



Being a member of the African Union and inherently a signatory to the Africa Agenda 2063 as well as the Continental Education Strategy for Africa, South Sudan is bound by the operational Continental Teacher Qualification Framework, which requires that the minimum initial teacher education for entry into the teaching profession be set at:

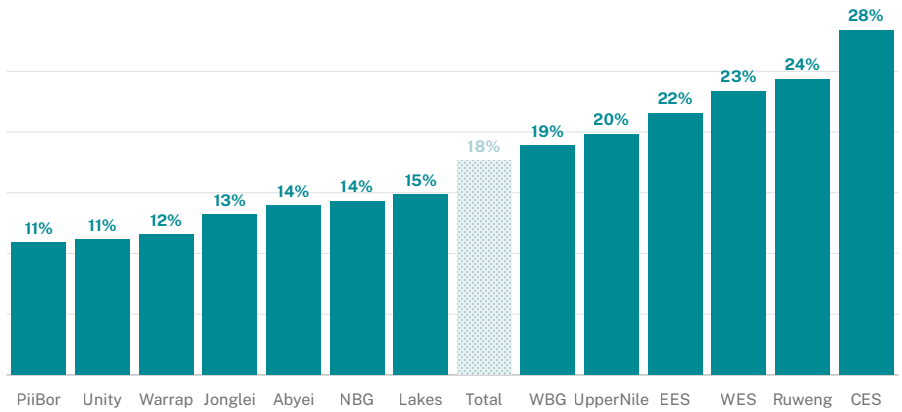
> *Bachelor of Education (B.Ed.) degree obtained either after successful completion of a 5-year programme with academic and professional education integrated; or three years of academic and two years of professional education; or Post Graduate Diploma in Education (PGDE) obtained after a Bachelor's (four-year duration), Master's or Doctorate degree in an academic field (Africa Union Commission, 2019).*[37]

Practically, many countries in the region do not meet this high threshold set at the continental level. For instance, in Kenya – a country whose teacher training and qualifications have been emulated by South Sudan – the requirements for teachers in primary schools is a Diploma in Primary Teacher Education, a short cycle post-secondary tertiary education programme, according to the International Standard Classification of Education[38] (UIS, 2011). When this is applied to the qualification of teachers in South Sudan, only a handful of teachers are above this threshold with 11% of teachers teaching in AES, 8% of teachers in primary, and 10% in the AES (*Figure 5.2*) having a diploma, which is the threshold equivalent in South Sudan. These numbers demonstrate the level of effort that is required in the education sector to ensure teachers are qualified to teach competently in South Sudan

37 African Teacher Qualification Framework for Teacher Quality, Comparability and International Mobility https://teachertaskforce.org/sites/default/files/2020-09/Continental%20Teacher%20Qualification%20Framework_EN.pdf

38 International Standard Classification of Education https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

Figure 5.4 Share of female teachers in general education, 2021



Source: Annual Schools Census, (MoGEI, 2021)

and are also competitive when compared with others in the region. At the continental level, the high threshold indicates a need to increase the capacity of the TTIs to be able to offer teacher education programmes at the degree level.

Another key aspect of the teacher workforce is gender composition. The ASC results show that teaching in South Sudan is largely dominated by males, a phenomenon that starts with the imbalance at the initial teacher training – in 2021, where only 26% of the teacher trainees were female in 2021. Only one in five teachers in general education is female, with the share ranging from one level of education to another (MoGEI, 2021). In pre-primary, nearly two-thirds of the teachers are female, dropping drastically to 15% in primary, 13% in AES, and less than 10% in secondary (*Figure 5.3*). Regardless of the level of education where teachers teach, there is widespread disparity in the share of female teachers by state, ranging from 11% in Pibor to 28% in the Central Equatoria State (*Figure 5.4*). The male dominance in the teacher training and subsequently teacher workforce is attributed to historical facts or and societal norms. Notably, boys have been privileged to attend school, meaning more of them were inherently eligible for teacher training and eventually recruitment into teacher training when compared to females.

One-third of teachers in general education are volunteers, but they hardly make up for the acute shortage of qualified teachers, and they are themselves not any more qualified**.** The 2021 ASC revealed that nearly 61,000 teachers were serving in general education. They were grouped into three contract-status categories, that is, full time, part-time, and volunteer teachers (MOE, 2021). There were about 33,000 full-time teachers,

Table 5.6 Service status of practising teachers in general education, 2021

	Full-timer	Part-timer	Volunteer	Total	% Full time
Absolute					
Pre-primary	2,780	166	1,092	4,038	68.8
Primary	24,033	3,486	19,263	46,782	51.4
Secondary	4,538	937	1,169	6,644	68.3
Alternative	1,542	320	1,385	3,247	47.5
Total	**32,893**	**4,909**	**22,909**	**60,711**	**54.2**
Teachers with diploma+					
Pre-primary	15.6	8.4	6.3	12.8%	
Primary	16.1%	13.1%	7.3%	12.3%	
Secondary	76.4%	64.4%	49.7%	70.0%	
Alternative	18.5%	16.9%	10.1%	14.8%	
Total	**24.5%**	**23.0%**	**9.6%**	**18.7%**	

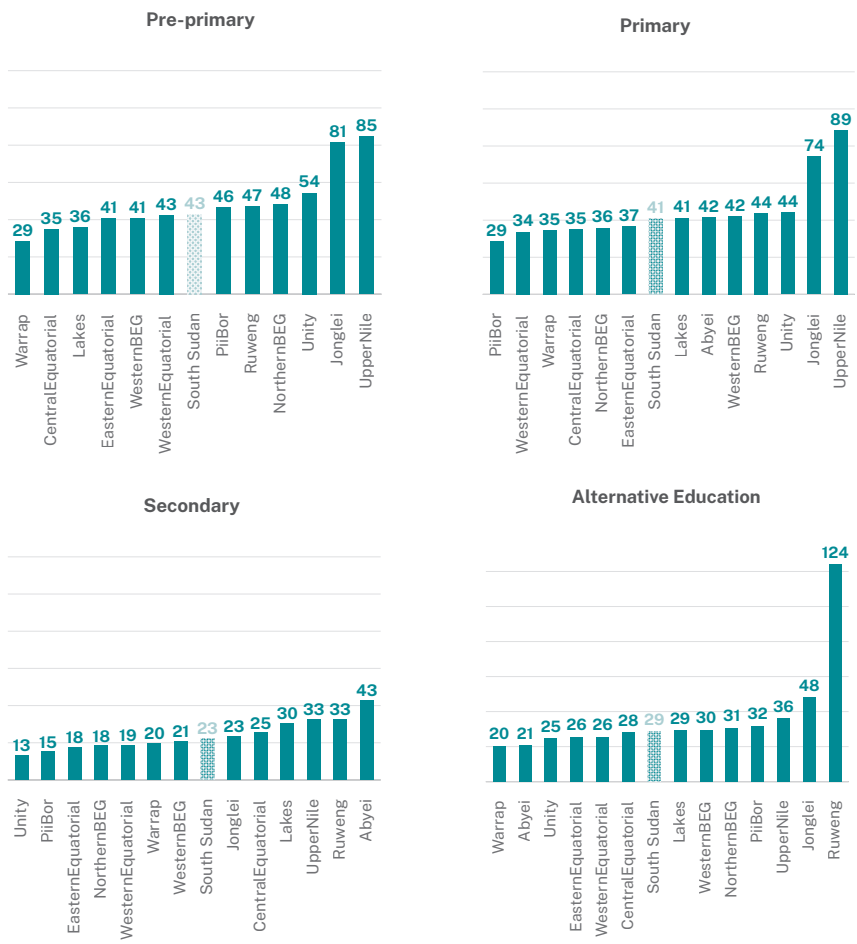
Source: Annual Schools Census, (MoGEI, 2021)

4,900 part-time teachers,[39] and nearly 23,000 volunteers. The full-time teachers accounted for slightly more than half of the total teaching force, while volunteers accounted for one-third, and the share of full-time teachers varied from one level of education to another. For instance, in pre-primary and secondary schools, nearly 7 in 10 teachers were in full-time teaching, compared to half in primary and AEP. Regarding teacher qualification, the ASC results show that only one in four full-time and part-time teachers holds a diploma and higher qualifications. Among volunteer teachers, the share of qualified teachers is even lower, with only one in 10 teachers holding a diploma or any higher qualification.

With the volunteer teachers, the average Pupil Teacher Ratios (PTR) at the national level remain reasonable in some levels of general education but show acute disparities across states. Against the 172,700 learners in pre-primary, 1.9 million in primary, 149,700 in secondary, and 93,200 in AES, the 61,000 teachers result in national PTRs of 43:1, 41:1, 23:1, and 29:1, respectively, with notable disparities across states. For instance, in pre-primary, while on average 43 learners are taught by one teacher, this ranges from 29:1 in Warrap State to 85:1 in Upper Nile State. There is a general shortage of teachers – not just qualified teachers – even though volunteer teachers have been engaged.

39 Part-time teachers can be full-time teachers in other schools; NGO workers and civil servants also teach in some schools.

Figure 5.5 Pupil-teacher ratios across levels of general education, 2021

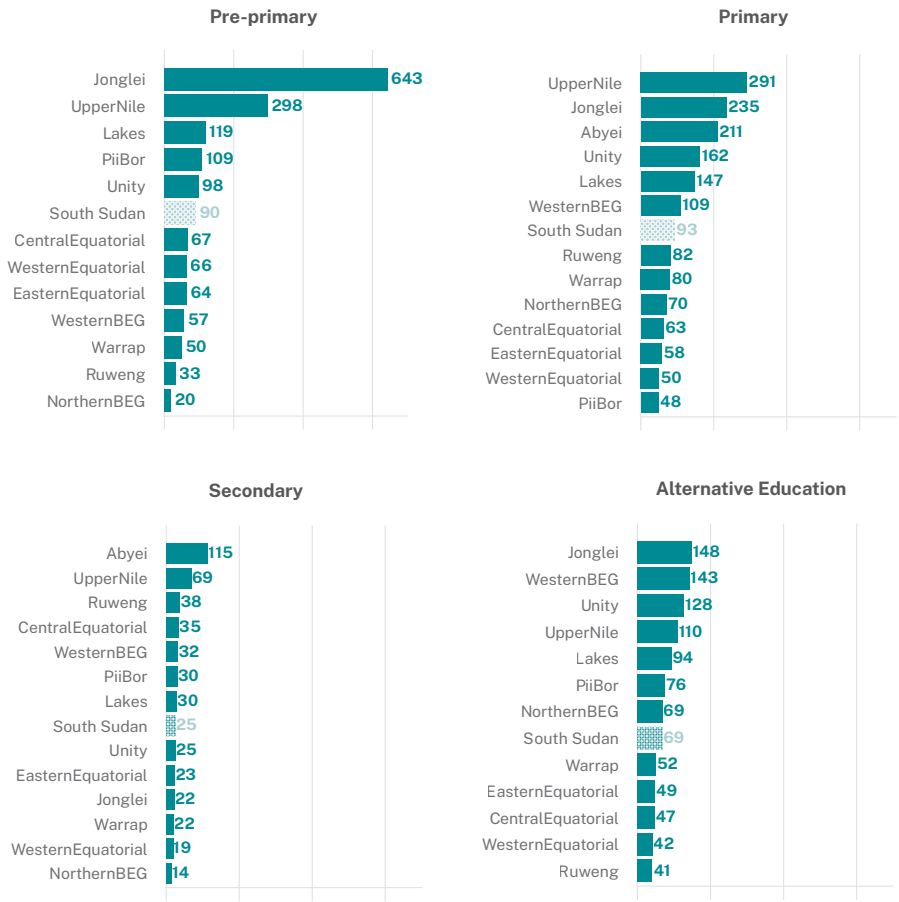


Notes: The PTRs are computed for all schools (public and private) and based on all teachers, that is, government and non-government teachers in all categories of schools, including volunteer teachers

In pre-primary, for instance, where it is recommended that there be a teacher for every 25 learners, there is an average of 43 learners for every teacher, which affects the instruction approach at this level of education. Moreover, in some states, the ratio goes as high as 85 learners for every teacher.

An analysis of public schools and government-paid teachers only – to highlight the effort of the government towards fulfilling education commitment – shows a huge shift in the PTRs, demonstrating the level of reliance the public education system has on volunteer teachers. In pre-primary, the PTR jumps from an average of 43:1 to 90:1; 41:1 to 93:1 in primary; and

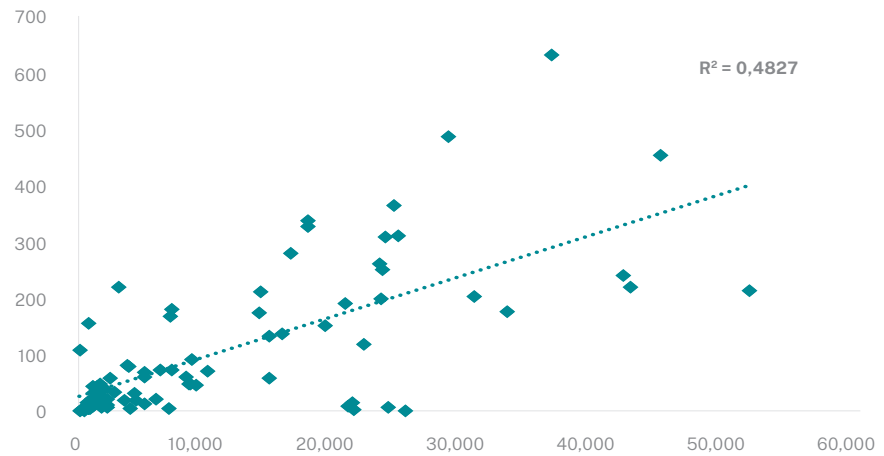
Figure 5.6 Pupil-teacher ratios in public schools of general education, 2021



Notes: The PTRs are computed for public schools only and are based on all teachers paid by the government. Part-time and volunteer teachers in public schools are omitted from these figures.

29:1 to 69:1 in AES (see *Figure 5.6*). In some cases, the PTRs are extremely high, with stark disparities between states. In Jonglei, there are nearly 700 learners for every government-paid teacher in pre-primary schools, compared to 20 learners per teacher in Northern Bar el Gazal, for the same level of education. These distributions highlight the lack of a harmonized approach to teacher recruitment, which ends up marginalizing some states on the acquisition of public resources. The states with high PTRs are also known to have

Figure 5.7 Coherence in teacher distribution by County, 2021



Notes: The data collected in the 2021 ASC was separate for teachers and enrolments, and without common identifiers in the two data sets, it was difficult to merge and make this assessment at the school level. Each point in the scatter diagram represents a county, showing enrolments against the number of teachers deployed in that specific county.

borne the largest burden of the protracted civil conflict.

The lack of equity in PTRs is also seen in the deployment of teachers.[40] Teachers are generally expected to be deployed to schools based on enrolment. In South Sudan, this is not the case. For instance, in public primary schools, the extent to which teachers are allocated to counties based on enrolment is 48% (*Figure 5.7*), implying that more than half of the teachers are allocated based on other considerations outside of enrolment. This pattern depicts high inequality in sharing teachers as a public resource – given that learners in counties with the same level of enrolment do not get a similar allocation of teachers – and inherently unequal learning opportunities. In a country that is still setting its foundation in terms of governance, such patterns can be attributed to political considerations in the allocation of resources to certain states or counties in the filling of vacant positions. Moreover, these patterns may also be attributed to a lack of domesticated guidelines for teachers' management (especially on recruitment to balance national, state, and county teacher needs). It would be important that the next phase of planning focuses on the development of a teacher allocation policy to ensure that this inequality is addressed right from teacher preparation to teacher allocation, recruitment, and deployment. Conflict is another factor that cannot be underplayed, and which may explain the disparity in the distribution of teachers. It makes some parts of the country inaccessible and undesirable for teachers to take up opportunities therein.

40 Teachers are recruited at Sub-national level although the budget is centralized, which makes a national 'deployment' possible to balance the use of resources.

5.3.2 Availability of curriculum support materials in schools

There is an elaborate textbook policy[41] to guide the supply of teaching and learning materials to schools under general education and to facilitate curriculum implementation. The policy outlines the minimum profile of teaching and learning materials expected in schools across levels of general education. *Table 5.7* presents key policy recommendations/provisions for materials required in schools. One of the key highlights of the policy, especially for learners, is that each learner must have a textbook to himself or herself in all the subjects offered under the curriculum framework, including a special textbook for learners with disabilities.[42] Moreover, teachers are expected to be furnished with teacher guides for all the subjects they teach. The policy also stipulates that textbooks should be used and reused by successive learners. The textbooks have an expected life-expectancy of three years for pre-primary school learners and nearly a generation length for learners in primary (see *Table 5.7*). As a result of this, the policy makes provisions for annual loss and or damage of materials and anticipates the inevitable growth in enrolments every school year and a 10% buffer is provided for this reason.

Based on the policy recommendations or provisions of the National Learning and Teaching Policy, there have been

Table 5.7 Policy provisions of the national learning and teaching policy, 2015

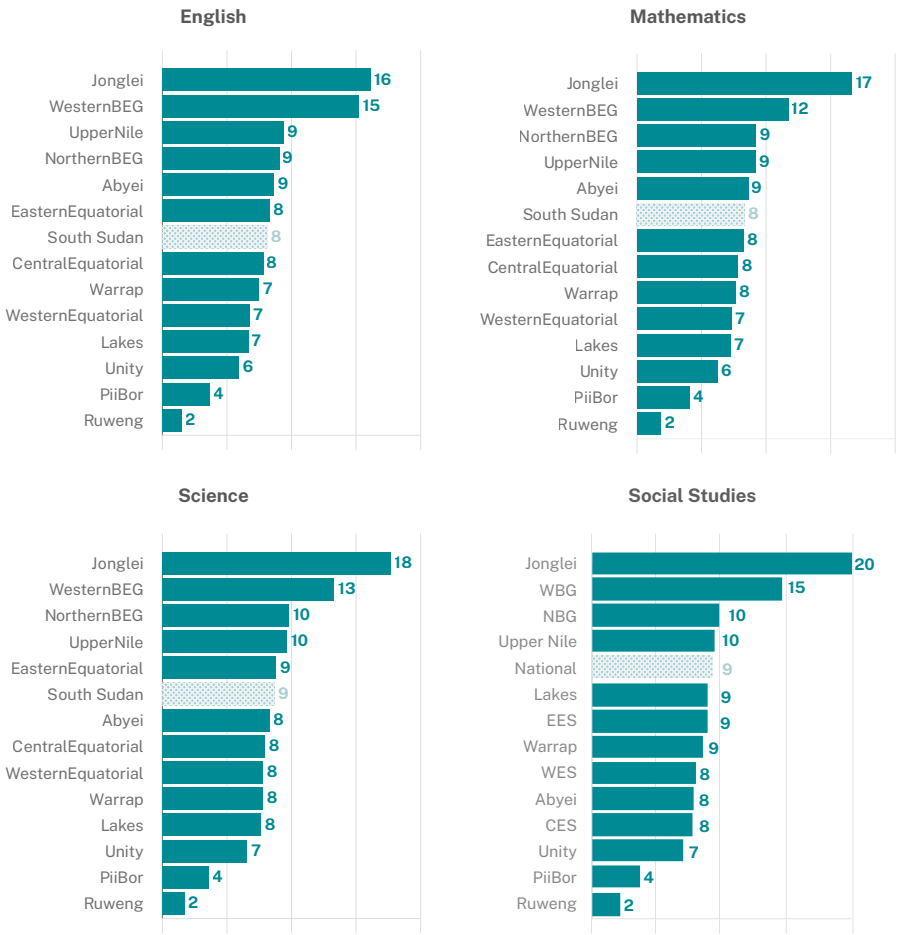
Policy area	Policy recommendation/Provision
Minimum profile of Learning and Teaching Materials (LTMs) required to support curriculum objectives and specified learning outcomes	All subjects at every grade level detailed in the revised curriculum framework require textbooks and teacher guides
Target Learning and Teaching Materials ratios	1:1 Pupil-textbook ratio for all subjects One book per teacher for all teacher guides One book per enrolled learner in pre-primary One book per teacher for teachers' aids One book per three students for pre-primary learning games One special book per child with a disability
Book life	Three years for ECD Six years for primary, AES, and secondary
Buffer stock allocation for loss, damage, and enrolment growth	10% per year
Loss/damage policy	Parents/learners will be required on a case-by-case basis to contribute to the cost of replacement of lost and damaged books

Source: National Learning and Teaching Policy, 2015, Page 21

41 The National Learning and Teaching Policy, 2015

42 Learners who are totally blind: brailed textbooks at a ratio of 1:1, and all selected drawings embossed; Learners with low vision: large font textbooks at a ratio of 1:1; Learners who are deaf: textbooks with adaptive sign language at a ratio of 1:1.

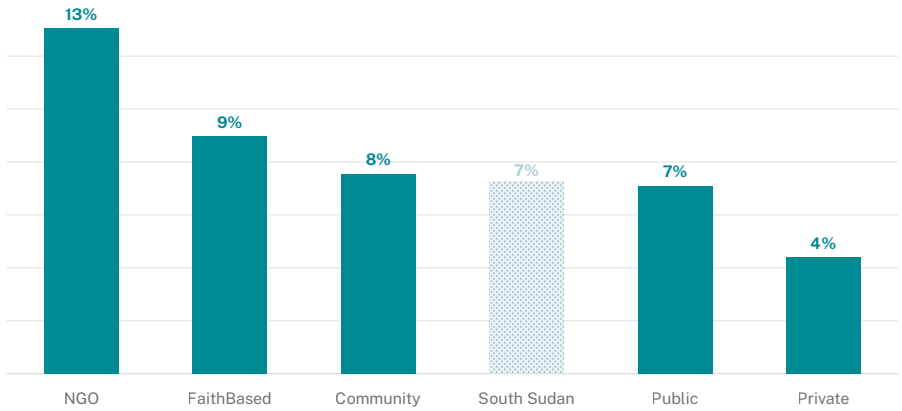
Figure 5.8 Pupil textbook ratios in public primary schools in selected subjects, 2021



Source: Annual Schools Census, (MoGEI, 2021)

several initiatives in recent years to supply teaching and learning materials to schools, including the distribution of 1.2 million textbooks to Eastern Equatoria, Lakes, Jonglei, Upper Nile, Unity, and Warrap states in 2021, supported by Save the Children, Norwegian Refugee Council, Finn Church Aid, and Education Cannot Wait; the distribution of about 2 million textbooks and 220,000 teacher guides targeting 1.2 million learners in 2020 with the printing and supply of over 1.6 million textbooks to primary schools under the China-Aided Phase II Technical Cooperation Project in Education in South Sudan also in the pipeline at the time of this analysis. These initiatives notwithstanding, the present textbook ratio remains high across key selected subjects, especially in primary schools;

Figure 5.9 Share of primary schools with PTR of 2:1 in English, 2021



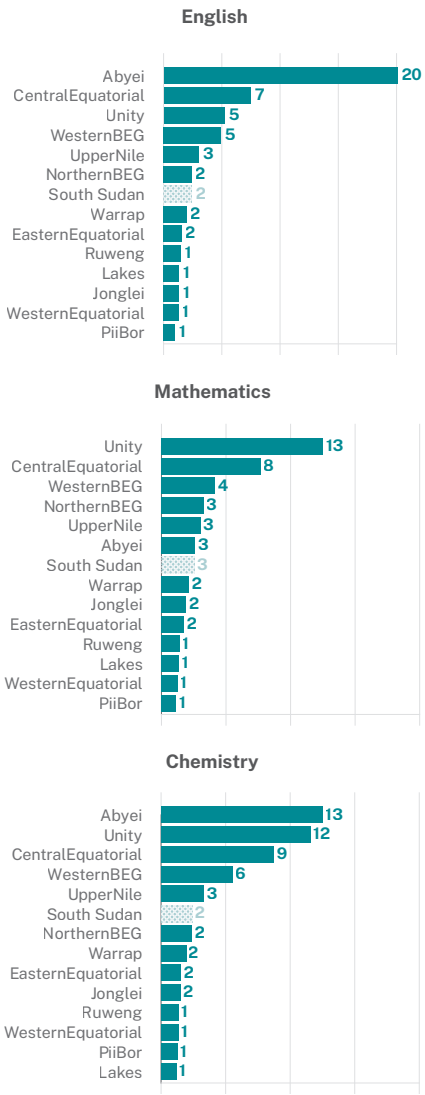
Source: Annual Schools Census, (MoGEI, 2021)

however, improvements have been seen in secondary. Information collected from schools through the ASC includes an inventory of textbooks available for use for the various subjects offered. The 2021 ASC revealed that for the more than 1.2 million learners enrolled in public primary schools, textbooks available for core subjects like English, Mathematics, Science, and Social Studies could support a learner-textbook ratio of 8:1 in English and Mathematics, and 9:1 in Science and Social Studies, which are both significantly above the 1:1 standard recommended by the policy. Moreover, there are stark disparities across states (*Figure 5.8*). For instance, in Jonglei and Western Bar el Gazal, at least 15 learners were found to be sharing an English textbook, compared to two learners sharing a textbook in the same subject in Ruweng Administrative Area. Similar patterns are seen in Mathematics and Science.

Further assessment shows that only a few schools have textbook ratios that can support learning. Although the LTM policy recommends a textbook ratio of 1:1, the existing high ratios mean that the country has a long way to go in as far as meeting the ambitious target set. We can relax the target to 2:1 and assess how many schools fall within this adjusted textbook-sharing arrangement. Applying this to English textbooks in primary, the 2021 ASC reveals that less than 10% of schools meet this threshold (*Figure 5.9*). NGO-operated schools have the highest share of schools meeting this threshold, but even so, 87% of NGO-run schools had ratios above this line.

In secondary, there are better student textbook ratios (STR) compared to primary schools, which is commendable and complies with the Learning and Teaching Materials policy. However, this is happening 'late in the day' when learners' acquisition of foundational skills may have been compromised by the high textbook ratios in primary schools. As seen in *Figure 5.10*, the disparities seen with primary textbook rations by states persist even in secondary.

Figure 5.10 Student textbook ratios in public secondary schools in selected subjects, 2021



Source: Annual Schools Census, (MoGEI, 2021)

Despite the acquisition of textbooks under various initiatives, the high ratio shows that books are barely in schools. Factors attributed to this include perennial communication and transportation challenges, further compounded by a lack of monitoring of distribution, insecurity, and natural disasters including flooding in some locations, which also hampered textbook distribution (UNICEF, 2021). Another challenge cited is the weak planning for the provision of books, especially with concerns over the quality of information available on the number of learners in schools. For schools that are reached by the distribution process, there are either fewer books than enrolled students or there is a surplus of books. It is also important to note that the textbook distribution challenge is not limited to South Sudan. Lessons from Malawi and Sierra Leone (World Bank projects[43] [44]) demonstrate similar challenges at the level of distribution or non-provision of books to learners at school level. These projects designed textbook delivery monitoring mechanisms to ensure books reached schools and that learners would use them to enhance learning.

5.3.3 Assessing the learning environment

As children come to school in search of knowledge, their pursuit can be encouraged through the conditions of the learning environment which they will find in their school. A learning environment can take different forms, including physical, emotional, and psychological.

43 Malawi EQUALS Project https://documents1.worldbank.org/curated/en/681261552788045521/pdf/1550696969899-0000A8056-Project-Appraisal-Document-PAD-Equity-with-Quality-and-Learning-at-Secondary-EQUALS-P164223-02222019-636883704278660767.pdf

44 Sierra Leone FREE Project https://documents1.worldbank.org/curated/en/957041593741800590/pdf/Sierra-Leone-Free-Education-Project.pdf

This analysis has focused on the physical aspect of the learning environment, seeking to understand the availability of classrooms and their distribution across different levels of education. It also focused on access to key amenities like water and power, which can enhance the implementation of school programmes. The assessment in this sub-section is predicated on the South Sudan Minimum Standards for Education in Emergencies (UNICEF, 2012), which defines standards for education services and facilities among other key aspects.[45] According to the minimum standards, access to education means that all eligible children have access to a school that is located not more than 5km from their home, safe drinking water, separate toilets or latrines for both boys and girls in addition to learning materials. Moreover, the standards envision a teacher for every 50 learners to support effective instruction.

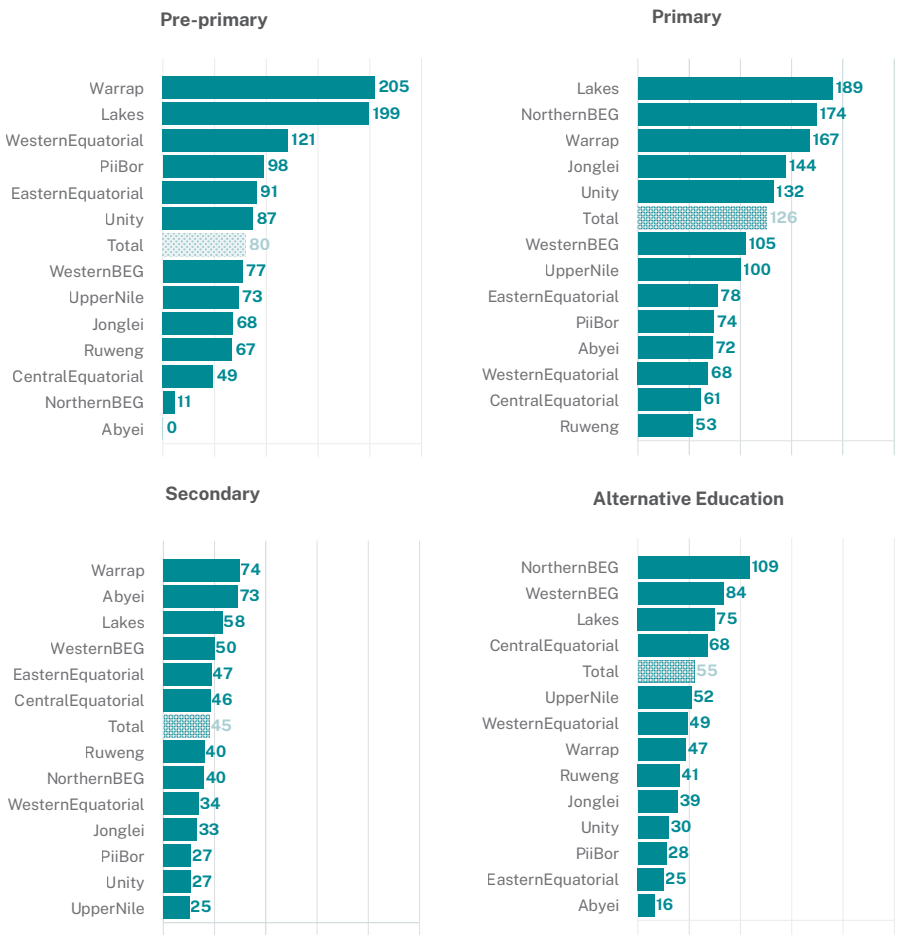
5.3.3.1 Availability of classrooms

Learning in general takes place on average in crowded classrooms, undermining effective instruction. The influence of class size on learning outcomes has been the centre of decades of research, with numerous works pointing to the fact that large class sizes make classrooms harder for teachers to manage, thus lowering the effectiveness of teachers in the process of instruction (Kariuki, Guantai, 2005; UIS, 2012; Köhler, 2020; Peter, Ligembe, 2022). In South Sudan's general education, the 2021 ASC reveals that on average there are 80 learners per teacher in public pre-primary schools; 126 in the public primary; 45 in public secondary; and 55 in public AES. Moreover, there are large variations in the average class sizes by state and level of education. For instance, while the average class size in pre-primary is 80 learners in a classroom, this ranges from 11 in Northern Bar el Ghazel to more than 200 in Warrap State. Similar patterns of disparities are observed in the other levels of education.

A visit to some selected schools in the Central Equatoria State during the analysis revealed crowded classrooms where teachers could hardly walk around in the classrooms, including one where a teacher could barely use the black wall (blackboard) because learners' desks occupied virtually the whole classroom and the teacher had to stand almost static at the classroom door and shout instructions to learners. Furthermore, on the proportion of schools with class sizes conforming to standards of 50 learners, the ASC results show that only one-third of primary schools and slightly less than half of secondary schools conform to this threshold, with observable variations between the types of schools in both levels of education. In primary schools, slightly more than half of private schools have class sizes with less than 50 learners, compared to only 13% of NGO-run schools. In secondary, less than 20% of NGO-run schools have a class size of 50 and below, rising to more than half of faith-based secondary schools. These results show that in a substantially high number of schools, classrooms are too crowded to be conducive environments for effective instruction.

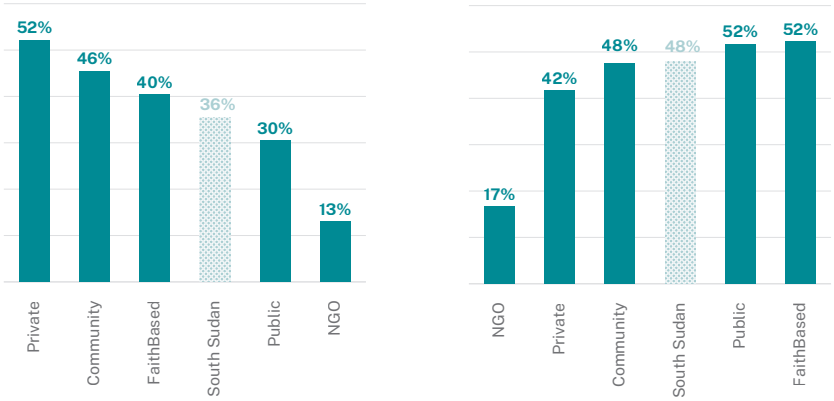
45 Other aspects defined in the standards include: community participation, coordination, teaching and learning, and teachers and other education personnel https://inee.org/sites/default/files/resources/INEE_MS_Contextualized_South_Sudan_English_2012.pdf

Figure 5.11 Average class sizes in public schools, 2021



Source: Annual Schools Census, (MoGEI, 2021)
Notes: The class sizes are based on permanent, semi-permanent, and classrooms with roofs

Figure 5.12 Share of public schools with average class sizes below 50, 2021



Source: Annual Schools Census, (MoGEI, 2021)
Notes: The class sizes are based on permanent, semi-permanent, and classrooms with roofs

5.3.3.2 Access to a source of water

Overall, two-thirds of schools have access to a water source, with nearly three-quarters of secondary and AES schools having access to a water source (*Figure 5.13.*) Most schools with access to water have a borehole as the principal source. In primary, the share of schools having access to water ranges from less than half of private schools to more than 80% of NGO-run schools. Two-thirds of all primary schools have access to a source of water (*Figure 5.14*). Similar patterns were observed at the other levels of general education. At the state level, there is a large variation in the share of primary schools with access to water, ranging from a third of the schools in Upper Nile State to nearly all the schools in Ruweng Administrative Area. (See *Figure 5.15*).

5.3.3.3 Access to a source of power

Access to a power source in general education schools is mixed and shows that a lot remains to be done in improving the experience of learners and teachers. Electricity (or in general access to a power source) can be life-changing to school stakeholders, first to the learners and teachers, and then to the community. Electricity has the potential of extending study hours in schools, facilitate the use of ICT equipment for an improved learning experience, can help in the improvement of the work environment and thus enhance the retention of staff; all these can work together to improve learning. Outside the school, access to electricity has been established to have a multiplier effect on school communities, including improving sanitation and health through water purification systems and the operation of food preservation equipment, gender empowerment, as well as reduced migration and strengthened resilience as it can enable the operation of early warning systems for disasters (UN, 2014). These potential benefits notwithstanding, schools in South Sudan generally lack access to electricity, with less than 10% of the schools where 2021 ASC was collected reporting to have access to

Figure 5.13 Share of schools with access to water, 2021

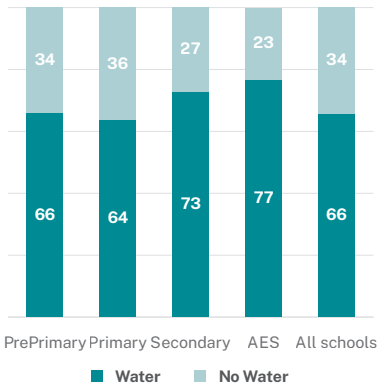
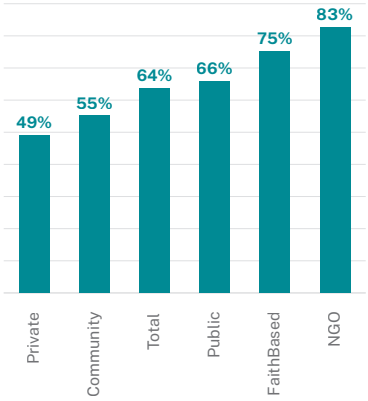
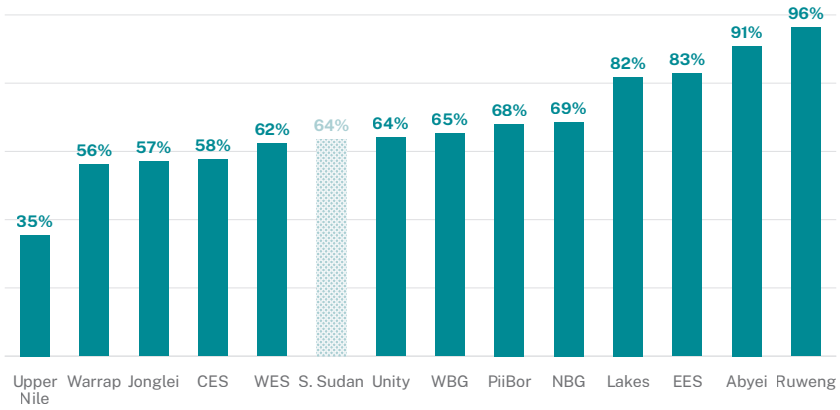


Figure 5.14 Share of primary schools with access to water, 2021



Source: Annual Schools Census, (MoGEI, 2021)

Figure 5.15 Share of primary schools with access to water by state, 2021

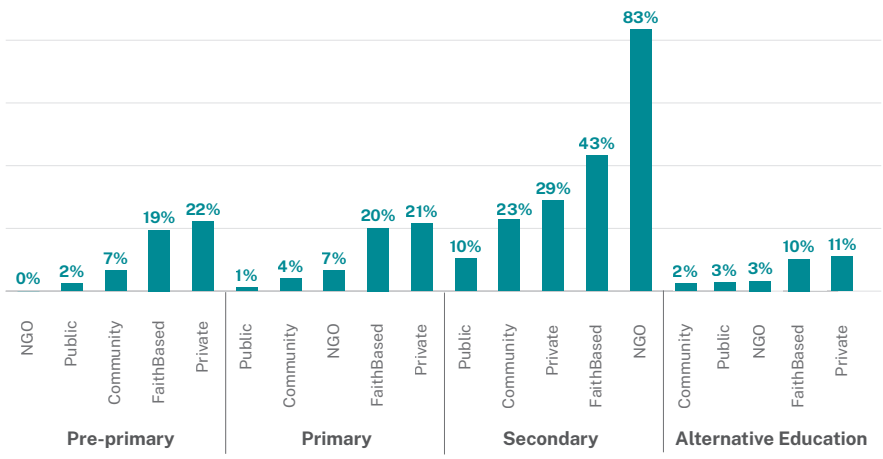


Source: Annual Schools Census, (MoGEI, 2021)

a power source, and this ranges from one level of education to another. For instance, at the pre-primary level, 11% of schools have access to electricity, with private schools topping the list at 22% and all of the NGO-run schools at this level have no access to electricity (*Figure 5.16*). Similar patterns are observed in primary, where 21% of private schools have access to electricity compared to only 1% of public schools, and because of the weight of public schools, the overall rate of access to electricity at this level is hardly 5%.

Secondary schools have the highest share of schools having access to electricity, with one-quarter of the schools reporting to have electricity in 2021, and this ranges from 10% in public schools to more than 80% of NGO-run schools. Discussions with MoGEI officials revealed that there is a strong desire that the provision of

Figure 5.16 Percentage of schools with access to a power source, 2021



Source: Annual Schools Census, (MoGEI, 2021)

learning and teaching materials transitions to digital. However, these numbers on access to electricity demonstrate that a lot remains to be done to ensure more schools are connected to a power source if such a vision is to take off in the education sector. This remains a mammoth challenge, given that the energy infrastructure in South Sudan remains underdeveloped, with only 7% of the population having access to electricity (World Bank, 2020). Amid this low connectivity, opportunities like solar power can be exploited to increase connectivity to schools, while also ensuring that communities can have access to the same amenities, especially in rural areas.

5.3.4 Assessment of learning and examination

'Assessing learning and making it a serious goal,' is one of the key takeaways from the World Development Report (World Bank, 2018) on how to address the learning crisis in education. In South Sudan, the 2017–2022 General Education Sector Plan contemplated the establishment of a learning assessment to ensure learners at key stages of general education could be assessed to design appropriate remedial actions for learners whose competency levels are lower than expected. At the time of this analysis, no systemic learning assessment had been established, although there was a nationally representative sample Joint Learning Outcome Assessment designed to: establish the current literacy and numeracy skills of South Sudanese learners; identify existing gaps in available data on South Sudanese learners' learning outcomes; and explain the salient risks and drivers that may stunt learners' learning progression. While the Joint Learning Outcome Assessment would go a long way in highlighting the learning levels and the factors attributed to the identified competencies, it would still be useful to have a system-

Table 5.8 Evolution of candidates in the certificate of primary education

	2017	2018	2019	2020	2021
Male	29,005	29,481	34,524	37,453	31,922
Female	12,938	18,756	21,934	27,419	22,203
Total registered	41,943	48,237	56,458	64,872	54,125
Female as % of registered candidates	30.8%	38.9%	38.9%	42.3%	41.0%
Examined candidates	40,792	45,492	53,091	62,294	49,490
% of non-examined candidates	3%	6%	6%	4%	9%

Source: South Sudan Examination Council

atic mechanism of measuring learning to accompany the end of primary and secondary examinations.

The end-of-cycle examinations are administered by the South Sudan Examination Council and were established under the Examination Council Act, of 2011. The law[46] gives the Council powers to (a) make rules regulating the conduct of examinations under the scope of the Council's management and administration; (b) conduct examinations and confer diplomas, certificates, and prizes under any law in force; (c) set up examination calendar and time schedules for various examination papers; (d) conduct primary, secondary, technical/vocational, business and other post-secondary education examinations; and (e) award certificates to successful candidates and those who have gone through the cycles (GOSS, 2011). The Council has held examinations since 2011 despite the intermittent years of conflict. For this report, the analysis focused on the evolution of the Certificate of Primary Education (CPE) and Certificate of Secondary Education (CSE).

The Certificate of Primary Education continues to attract more candidates, girls are seen to be catching up with boys, and pass rates remain relatively high. Each year, at the beginning of an academic calendar, the National Examination Council registers candidates to sit the national examinations by the end of the specified academic year. In 2021, the NEC registered more than 54,000 candidates, 41% of them being female (*Table 5.8*). The number of candidates is seen to have risen from 42,000 five years earlier (2017) to nearly 65,000 in 2020, a 55% growth, before declining to 54,000 in 2021. This decline could be possibly attributed to the backlog from the conflict that ended in 2018. The number of female candidates is also seen to have grown, increasing by 10 percentage points during the same period. Observable from the examination administration is the difference between registered and examined candidates, whose number tripled from 3% in 2017 to 9% in 2021.

46 Examinations Council Act, 2011 https://dr.211check.org/wp-content/uploads/2021/07/Examination-Council-Act-2011.pdf

Table 5.9 Evolution of performance in the certificate of primary education

	2017	2018	2019	2020	2021
Pass	33,991	37,300	46,811	56,268	44,236
Fail	6,801	8,414	6,430	6,092	5,324
Total	40,792	45,714	53,241	62,360	49,560
%Pass	83.3%	81.6%	87.9%	90.2%	89.3%

Source: South Sudan Examination Council

Table 5.10 Evolution of candidates in the certificate of secondary examination

	2016	2017	2018	2019	2020	2021
Male	10,027	5,485	9,983	16,824	22,366	21,369
Female	3,941	2,605	3,673	6,259	11,514	10,339
Total registered candidates	13,968	8,090	13,656	23,083	33,880	31,708
Female as % of registered candidates	28.2%	32.2%	26.9%	27.1%	34.0%	32.6%

Source: South Sudan Examination Council

Although key inputs to learning remain in short supply in primary schools, including the limited supply and under-qualification of teachers, the system's reliance on volunteer teachers to fill the teacher deficits, learning materials being in short supply, and the overcrowding of classrooms likely affecting the quality of instruction, pass rates in CPE have remained high. Nine in 10 examined candidates passed examinations between 2019 and 2021 and even before 2019, on average eight in 10 candidates succeeded in the examination (*Table 5.9*). This analysis could not establish the factors attributed to this incoherence in the input and outputs and recommends further inquiry to establish how the candidates manage such high pass rates in a resource-constrained context. Comparative results from the neighbouring countries show that primary education candidates in Kenya had around 50% of candidates reaching the halfway mark of the Kenya Certificate of Primary Education examinations.

In the Certificate of Secondary Education (CSE), the number of candidates more than doubled over the reviewed period, rising from 14,000 in 2016 to nearly 32,000 in 2021 (*Table 1.10*). Similar to the case in CPE, girls are playing catch-up, with their numbers increasing faster than those of boys. The faster increase notwithstanding, the share of female candidates in 2021 was around 33%, highlighting the need to strengthen programmes supporting girls' education, like the GESS.

In terms of performance, there has been tremendous improvement in the pass rate in the CSE examination. It increased from 6 in 10 candidates in 2016 to 9 in 10 in 2021, including nearly all candidates in 2020 (*Table 5.11*). Although inputs to secondary have been better compared to those in primary, the high pass rate in

Table 5.11 Evolution of performance in the certificate of secondary education

	2016	2017	2018	2019	2020	2021
Pass	7,774	5,781	9,354	17,164	32,457	27,995
Fail	5,731	1,898	4,014	5,056	837	2,338
Total	13,505	7,679	13,368	22,220	33,294	30,333
Passing as % of examined candidates	57.6%	75.3%	70.0%	77.2%	97.5%	92.3%

Source: South Sudan Examination Council

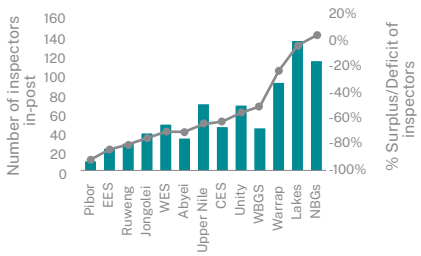
CSE, just like in CPE calls for an inquest to establish the details of the administration of examinations, especially in the context of the fast rise in examination pass rates since 2016. According to the expenditure analysis in *Chapter 4*, the examination council may be operating under tight budgets that may compromise the quality of the administration of examinations, a lapse that could be attributed to the interestingly high pass rates.

5.3.5 Organization of pedagogical support and use of data for insight into the quality

This sub-section presents an assessment of curriculum implementation support structures in place in General Education, including the organization of the teacher support structure. Similar to other tenets of education in South Sudan, the quality of education is supported through the creation of a school inspection directorate, a body whose mandate and functions are articulated in the schools' inspection policy.[47] Apart from the mandate and functions, the inspection policy defines the nature of school inspection expected to be undertaken by school inspectors, including (i) full inspection, which is carried over several days to produce a report on the performance of a school on several selected (seven) focus areas; (ii) survey inspection, where inspection is conducted by a single inspector to carry out a specific task, like conducting a literacy survey; and (iii) progress inspec-

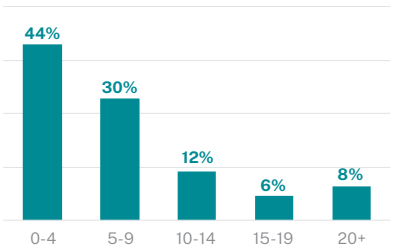
47 The school inspection policy provides that: Schools must be inspected regularly regardless of their funding source; there be a transparent system for school inspection with accountability chain; school staff and management to be trained on the school inspection system; school inspections to be undertaken by trained inspectors who will spend much of their inspection time on the observation of teaching and learning; school inspectors to be bound by a code of conduct; a school inspection will result in a written report including grades on key focus areas; inspection to offer advice on improvement; inspection reports to be public documents; County Education Offices to be responsible for the planning and reporting of school inspections to their SMOEs; SMOEs to be responsible for reporting school inspections to MoGEI; SMOEs to assure quality of school inspection process and reporting to MOGEI; MOGEI to be responsible for reporting on inspections nationally; MOGEI to assure quality of the school inspection process nationally; MOGEI to oversee the school inspection system and monitor its effectiveness in enhancing the quality of education; and MOGEI to be responsible for the review of the inspection policy in the light of evidence from monitoring its implementation.

Figure 5.17 Deficit of school inspectors, 2022



Source: South Sudan Examination Council

Figure 5.18 Distribution of inspectors by experience, 2022



tion, where inspectors have to check the progress of learners in ongoing interventions.

Although the school inspection policy lays out elaborate guidance to support schools in the implementation of the curriculum, the inspection system faces significant challenges related to the resource gap. According to the 2015 establishment, the Ministry of Finance approved that MoGEI hires 1,700 teachers to address the overall teaching backlogs in the inspectorate. However, the actual inspection staff in post is almost half of the approved positions, meaning that the inspection system is operating at a large deficit. At the national level, the shortage of staff averages 57% and ranges from a surplus of 5% in Northern Bar el Gazal to a deficit of more than 90% in Pibor state. Moreover, the team of inspectors seems to comprise younger people, with nearly half (44%) having only practised for three years even though policy requires inspectors to have been in the field for at least five years. Surprisingly, none of the inspectors has ever conducted a visit to a private school, which may imply that inspection is made in public schools, which may be at the expense of the quality and high standards in private schools. The inspection assessment also shows that nearly all the inspectors (96%) have classroom experience, which is useful when they conduct classroom observations.

Chapter 6

Technical vocational education and training and linkages with the labour market

TVET and the broader skills development ecosystem of a country are key to strengthening the human capital of the national labour force. Providing youth with a set of skills and competencies in line with labour market demands is widely considered a key lever for improving livelihoods. Supply-side arguments also make TVET crucial, particularly in fragile contexts, given that investing in TVET is regarded as an effective active labour market policy to fight un- and underemployment and ultimately contribute to social cohesion and political stability.

War and instability prior to and post-independence have inhibited the development of a well-functioning TVET system involving public and private actors and providing equitable opportunities for skills development to the South Sudanese population. The main features of the TVET in South Sudan are similar to those of other economically fragile countries in sub-Saharan Africa, where skills development systems are at an embryonic stage (e.g., Burundi, Liberia, etc).

In the South Sudanese context, TVET and skills development has been gaining ground as a national priority in the complex state-building process that ensued post-2011. Domestic political will, coupled with heightened international donor assistance, has led to support interventions aimed at improving the governance and functioning of the TVET system.

Against this backdrop, this chapter provides an updated description of the functioning of the TVET system and its links with the labour market, based on available empirical evidence.

To begin with, section 6.1 presents an overview of the current state of the TVET system, providing an analysis of the most pressing challenges, including system fragmentation, predominant supply-driven training, and insufficient funding. This is done using data from EMIS and other key sources to quantify key trends in TVET system functioning, with a focus on key dimensions of quality and relevance as well as access and equity.

Sections 6.2 and 6.3 then discuss broader national labour market trends and the labour market outcomes of TVET, based on available data. The highly fragmented structure of the economy makes standard approaches to analyse labour market trends unfit to describe the South Sudanese context, particularly due to the existence of a myriad of local labour markets with little or no interaction. Despite this limitation, the chapter discusses key employment indicators and the labour market outcomes of TVET, in as much as available surveys, limited in nature and geographical scope, allow for. While these do not lend themselves to a full-fledged analysis of the external effectiveness of TVET, they yield useful insights into the extent to which the skills development architecture equips youth with the skills needed in the labour market. Further studies are nonetheless imperative to strengthen the knowledge base and inform labour market and skills development policies.

In section 6.4, the chapter discusses recent external support initiatives to revitalise the TVET system, strengthening its governance and equipping it with key tools for better management. Under the umbrella of the national unified TVET Policy,[48] the national TVET system is set for a new beginning, even though much depends on external factors related to the country's economic recovery in the coming years.

48 The TVET Policy has been validated by sector stakeholders but is pending final approval by the government.

6.1 Organization and delivery of TVET

TVET delivery in the territory of the present South Sudan dates to 1958, when the first Technical and Vocational Education and Training Centre was established (Juba Technical Intermediate School). Following the Addis Ababa Agreement in 1972, seven TVET centres were established,[49] to provide formal and non-formal TVET training. The post-independence period has seen a growing emphasis on equipping South Sudanese youth with the skills needed to enter the labour market, given the role of employability as a vehicle to achieve higher standards of human development and as a strategic tool to contribute to social stability.

Currently, TVET is delivered in South Sudan through four modes: formal, non-formal, informal, and the recently established Mobile TVET for pastoral communities. Aside from the recent rise of mobile TVET, this range of delivery modes is in line with the TVET landscape of other countries in sub-Saharan Africa with similar socio-economic conditions, for example, Liberia, Mozambique, and the Central African Republic. It is marked by a blend of formal and informal modes of training for skills acquisition. This reflects both the informal nature of the labour markets and the inability of the existing formal skills development offer to fully meet the ever-growing demand for skills training.

Formal TVET is school-based, and it is managed by MoGEI, which oversees the functioning of six government-owned TVET secondary schools currently operational in the country.[50]

In terms of admission requirements, formal TVET requires learners to complete primary schooling for children enrolled in the formal education system or alternative education system in the case of adult learners. Formal TVET runs in four-year cycles, and it comprises three categories of schools, namely technical, agricultural, and commercial secondary schools. Each academic year of study corresponds to one of the following training levels: proficiency, artisan, craft, and technician. While the current system only provides certifications for youth who have completed the fourth year, provisions under the National Qualifications Framework (which is pending final approval) allow leavers of the first three years to also be certified. To operationalize this, levels 1, 2, and 3 of the South Sudan TVET Qualifications Framework (SSTQF) correspond to exit points from the education system and an entry point into the labour market, strengthening flexible learning pathways.

Non-formal TVET takes place outside the formal education system. It usually has a shorter duration than formal TVET,[51] and it is not certified. Typically, it involves forms of skills development such as internships, short-term skills training by NGOs, on-the-job training in enterprises, and other forms of work-based, hands-on learning with or without classroom-based components. It is the most fragmented mode of

49 Juba MTC, Malakal Vocational Training Centre, Wau Vocational Centre, Tonj Technical, Torit Technical, Juba Youth Centre, and Malakal Youth Centre.

50 The Ministry of Higher Education Science and Technology used to play a key role as well, overseeing the country's network of four polytechnics, which were discontinued due to prolonged conflict.

51 The duration of the courses in the non-formal context span from six months to three years as it is only focused on skills training, as opposed to formal TVET which also provides theory-based academic training.

TVET delivery in South Sudan, involving the training branches of 30 line ministries, as well as training offered by a large number of NGOs and faith-based organizations active in the country. While by its nature it is hands-on and skill-oriented, non-formal training suffers from a lack of recognized national certification, which limits employers' ability to readily gauge the skill level of job seekers. Typically, non-formal training leads to certificates of participation or of course attendance, at best signed by the line ministry or a funding donor.

Informal TVET involves on-the-job skills acquisition in formal sector employment or through traditional apprenticeship schemes in the informal sector of the economy. In terms of the target group, informal TVET targets primary school dropouts or those who cannot afford secondary school fees. It lacks a curriculum, a certification system, and a mechanism to recognize prior learning experiences. According to the AfDB study, a total of 4,232 learners undertook informal TVET in South Sudan (2020), however, given the difficulties in mapping

Box 6.1- Skills training for pastoral communities: Reaching out to mobile populations to expand access to skills development opportunities

The Food and Agriculture Organization of the United Nations (FAO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), in partnership with the Ministry of General Education and Instruction (MoGEI), the Ministry of Livestock and Fisheries (MLF) and the Ministry of Agriculture and Food Fecurity (MAFS) have implemented a mobile TVET delivery system since 2019. The mobile TVET system is aimed at reaching out to pastoral communities and conflict-affected areas with integrated skills for sustainable livelihood and functional literacy. It was piloted in Kapoeta, located in Eastern Equatoria and Rumbek, located in Lakes State.

Mobile TVET targets a broad range of categories: adults, youth, and children, with different content delivered based on the diverse needs of these groups. The adults' content focuses on skills for livelihoods, such as integrating literacy and numeracy training and skills building in milk handling and processing. For youth, the curriculum follows the Accelerated Learning Programme approach, with emphasis on livelihood diversification for business and self-employment opportunities beyond the cattle camp. The child component follows the formal school curriculum but also integrates aspects of livestock management and agriculture. The major skills delivered in mobile TVET are artisanal skills in the areas of agro-pastoralism, fishing, small-scale mining, stone quarrying, sand mining, gum Arabic harvesting, honey processing, hides and skin, and milk products processing.

Mobile TVET is an innovative delivery mode that strengthens equity by reaching out to populations that, due to their itinerant lifestyle, have traditionally faced barriers in accessing education and training opportunities.

exhaustively all informal training opportunities, it is conceivable that this is just a fraction of the actual informal TVET population.

In addition to formal, non-formal, and informal TVET, a new mode has gained ground recently, namely Mobile TVET. Since 2019, FAO and UNESCO in cooperation with the Ministry of General Education and Instruction (MoGEI), Ministry of Livestock and Fisheries (MLF) and Ministry of Agriculture and Food Security (MoAFS) have established this delivery mode to meet pastoral communities' needs to acquire livelihood skills and functional literacy (see *Box 6.1*).

While this diversity in training mode caters to the need of learners in South Sudan, the current landscape marked by a highly fragmented skills development ecosystem calls for major streamlining and harmonization efforts. This concerns particularly the development of a common policy framework and a harmonized system of skills recognition reflecting the diverse learning environments at the disposal of youth (formal, informal, non-formal, mobile), with flexible learning pathways between basic and higher level or specialized skills development programmes and qualifications. The following section unpacks some of the consequences and ramifications of excessive system fragmentation.

6.2 An overview of key challenges for the TVET system

Available analyses point to several underlying shortcomings of the South Sudanese TVET system. Evidence gathered seems to indicate that some essential features of a well-performing TVET system are absent in South Sudan.

As discussed, system fragmentation is one of the key system challenges. Over 30 line ministries offer skills development and TVET-related opportunities in their domains of focus. That, coupled with the lack of an overarching regulatory and legislative framework and the absence of a dedicated governing body, has led to a disjointed TVET offer across states in South Sudan. In practice, each ministry offering vocational training does so according to its training policies and pedagogical standards.

At the central level, fragmentation also manifests itself in terms of national TVET policies. There are currently three parallel TVET policies in place: 1) the national policy for technical and vocational education and training under MoGEI (2018); 2) the South Sudan Vocational training policy by the MOL (2013); and 3) the training policy by MoAFS. These policies set out different processes for key functions such as curriculum development and assessment. The absence of an entity steering and managing the TVET system makes it difficult to perform these and other key system functions to transition towards a demand-led model. To streamline the policy orientation, recently UNESCO through the CapED programme, supported the formulation of a 'National Unified TVET Policy', discussed in depth in section 6.4.

High fragmentation of TVET supply bears major implications in terms of curriculum development. As noted in the National Unified TVET Policy Draft: 'There is no national TVET curriculum. Curricula vary across TVET/VT/skills development centres with little standardization.' Existing analyses point to obsolete curricula not driven by skills demand; instead, they produce TVET graduates with skills misaligned with labour market needs. Training centres often develop their curricula without external guidance or involvement of sector employers. A transition from objective-oriented pedagogy towards competence-based training with a strong emphasis on industry participation in curriculum development is imperative, yet the current fragmented ecosystem is not an enabler. UNESCO and other partners, as discussed later, have been working to support this transition. The EU-funded 'Empower' project has developed several competence-based curricula for level 1 certificates ('certificates of proficiency') in eight training areas. [52] This strengthens the non-formal TVET offer targeting vulnerable groups through second-chance education. Embedding CBT into the formal TVET offer at all training levels should now be included and prioritized in the country's TVET agenda.

The uncontrolled proliferation of testing and certification standards even within the same trade weakens the status and

52 Agribusiness; auto mechanics; building and construction; catering and hospitality; employability and life skills; hairdressing; solar and photovoltaic; tailor and garment.

the portability of diplomas issued by the formal TVET system. In practice, industry recognition of TVET graduates of a given trade does happen on a systematic basis, undermining the efforts of TVET learners. In the absence of a common qualifications framework, at least for the time being, each ministry offering skills training awards certification based on its procedures and standards, undermining the portability of titles. In a context where the predominant mode of skills acquisition is informal, acknowledging individual skill sets is a major step in ensuring a level playing field for job seekers. Systems for recognizing prior learning can be used for certifying skills acquired outside the education and training system. While no such mechanism is present in South Sudan, future efforts in the context of the SSTQF will focus on greater equity in recognizing individual skill sets and ensuring their portability at a national level.

In addition to outdated pedagogy and disjointed certification systems, TVET (particularly formal TVET) is unable to connect with the world of work through work-based learning schemes and other employment-enabling activities such as orientation and placement services at the school level. Apprenticeships happen mainly on an informal basis, without any connection to the formal education and training system. These elements may have a negative impact on the quality and relevance of TVET training, making TVET less appealing for job seekers, and consequently fuelling a generally poor public perception of TVET.

TVET System financing is another burning issue exacerbated by current fragmentation. Effective TVET systems rest on diverse sources of funding, including most notably the private sector. In South Sudan, TVET is delivered with scarce funding from the government to formal TVET through state transfers and NGO and donor funding in the context of specific projects. As illustrated in *Chapter 3*, less than 1% of MoGEI expenditure was allocated to TVET I 2021/2022. Even small-scale revenue-generating activities at the school level are only a reality in a couple of schools, as the AFDB report notes.[53] A national TVET levy, collected by MoGEI or through a dedicated skills development fund, would provide for a more diversified financing arrangement. This is enshrined in the unified TVET policy; however, translating that commitment into action will require major institutional efforts.

Equity in access to skills development opportunities is a major concern for TVET in South Sudan. Section 6.2 attempts to quantify this issue based on available evidence. While equity issues tend to play along several lines (gender, socio-economic, disability status, rural-urban) available data only shed light on the gender dimension, whereby girls' access to skills training is significantly lower than boys. Other key equity dimensions, including disability, call for stronger data collection efforts in the coming years, given the scantiness of information on this dimension.

Other documented challenges in South Sudan include insufficient TVET trainer remuneration and poor systems of

53 Juba MTC and Don Bosco VTC in Gumbo.

pre-service and in-service training. As highlighted below, the infrastructure endowment of TVET centres is also a major constraint, exacerbated by the prolonged conflict.

Another key challenge reported by key informants and corroborated by existing evidence is the insufficient focus of TVET's offer on STEM disciplines. Given the cross-cutting role of STEM-related skills in all economic sectors, an expansion of relevant TVET offer appears to be a major future priority.

Existing data collection and management systems are not capable of providing useful evidence for TVET system manage-

Box 6.2: The data challenge for TVET

'In South Sudan, TVET data management processes are understaffed and antiquated. The practice of allocating data processing responsibilities to a person with the appropriate knowledge and skills to do so is rare. The practice of receiving data in paper form and archiving it after a brief review is common' (UNESCO, 2019).
A 2019 UNESCO report provides an evidence-based overview of the magnitude of the data issue in South Sudan's TVET system. The report notes the predominance of paper-based collection systems and the frequent resort to information collected verbally at school level.

The report broadly highlights the lack of a data culture among TVET stakeholders, that is, a system of common practices with clarity about the role of data producers and data users. In this context, data collection is driven by administrative reporting needs rather than by the need to inform decision-making and foster system learning. There is no centralized data collection and management architecture. In addition, there is a lack of equipment, capacity, and funding. Schools, line ministries, non-formal providers, and other stakeholders reportedly collect data on only a handful of basic indicators; however, each of them does so without common standards, methodologies, and protocols. As a result, it is impossible to meet the minimum data needs for TVET, the report concludes. Even when data on a specific indicator are gathered, such as in the case of gender-disaggregated enrolment data, this happens at irregular intervals and in the absence of common standards; outdated paper-based data collection tools are often used. While this type of issue also concerns other education cycles and financial data, at the present stage, in the absence of harmonized practices, consolidating and crunching TVET system data at state (let alone national) level is impossible. Drawing system-wide conclusions on key patterns and trends is an elusive quest. This has direct implications on any attempt to provide quantitative assessments of the TVET system functioning but also on its links with the labour market.

Source: Assessment of the education and labour-related management information systems (MIS): Technical and Vocational Education and Training (TVET), Vocational Training (VT) and skills development', UNESCO 2019.

ment. A dedicated report by UNESCO presented in the *Box 6.2* below illustrates the scale of the data challenge for TVET in South Sudan, delving into the causes and implications of these data constraints.

The above set of challenges is common to many under-developed TVET systems in low-resource settings. Turning these challenges into opportunities for system improvement in these contexts requires not only strong domestic leadership but external intervention through donor support programmes. These can help governments to better define and articulate their strategic priorities and provide funding and technical assistance in key areas such as infrastructure, teacher training, curriculum development, and so forth. A positive element here stands in the growing dynamism of international donors, as illustrated in section 6.3. In recent years, several donors have stepped up efforts to strengthen the TVET system, in recognition of the crucial social and economic role of a more responsive and effective functioning of the skills development system. That, coupled with much-needed domestic efforts to strengthen TVET planning and management in the context of the Unified TVET Policy, may offer the South Sudan TVET constituency an unprecedented window of opportunity.

6.3 Quantifying TVET system functioning and performance in South Sudan

This section uses available data to illustrate the main trends and indicators of the functioning of the TVET system in South Sudan. As noted in *Box 6.2*, the absence of an MIS for TVET makes any quantification of such indicators inherently challenging.

The current analysis of TVET system functioning relies on three main sources of data: 1) MoGEI-led Education Censuses of 2016, 2018, and 2021; and 2) a TVET centre mapping funded by the AFDB performed by the Ministry of Gender, Child, and Social Welfare in 2020; 3) a UNESCO-funded report of 2022 also mapping the existing TVET offer. It is worth noting that Education Censuses led by MoGEI only report data on institutions linked with MoGEI, whether government-owned or non-formal. Given their well-established methodology, EMIS data from MoGEI allow for longitudinal comparisons and benchmarking over time. They are the main source of data used for the education sector analysis. Unless otherwise stated, all figures presented in the graphs and text in the following discussion are sourced from MoGEI's Education Censuses. Future MoGEI-led data collection exercises will, however, need to better cater to the reality of TVET centres. Key tools such as questionnaires would need to encompass the specificities of TVET centres.[54]

Data collected in the context of the AFDB-funded TVET Centre Mapping instead include all line ministries offering skills training for the formal side in addition to any project linked with these ministries for the non-formal side as well as the informal skills development offer.[55] This mapping, therefore, offers a picture broader in the scope of the TVET system. However, it presents a number of pitfalls: 1) since it is a stand-alone analysis, it offers fewer insights into longitudinal trends to gauge progress on key indicators over time; 2) it was implemented in the spring of 2020 in the early days of the COVID-19 pandemic, which had a negative impact on the implementation of its methodology and research protocol.[56] In spite of this, the findings of this mapping are used hereafter to validate or nuance key indicators from the MoGEI Education Census data.

The 2022 UNESCO-funded report focuses on formal TVET offer by MoGEI as well as on non-formal offer run by NGOs. Delays in data collection mean that the report does not cover formal TVET offers by other line ministries.

The definitions, methodologies, and bases for calculations of these three different sources differ. That, in addition to some internal inconsistencies, means that the figures presented need to be used with a certain degree of caution. With this caveat

54 According to key informants, the general EMIS questionnaire has not been adapted to the reality of TVET centres. Among other things, it does not feature questions on career counselling services, private sector involvement, availability and state of training equipment, and the use of competence-based pedagogy.

55 The dedicated report notes issues related to data collection and validation for the states of Jonglei and Upper Nile.

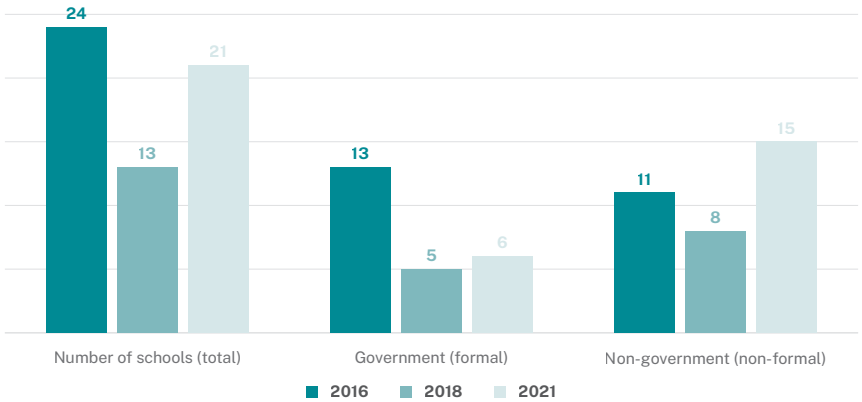
56 Among other things, the mapping relied heavily on information collected by phone with key informants at state level, given the impossibility to carry out field missions due to mobility restrictions.

in mind, the analysis identifies interesting trends and patterns that can be used for future reference and planning. One of the key overarching findings is the very magnitude of the data challenge for TVET, which calls for substantial work to streamline data collection methodologies at school and state levels and, eventually, organize data analysis functions. The upcoming establishment of a regulatory body for TVET leaves room for hope, given its potential to ensure these two key elements are carried out.

6.3.1 Formal and non-formal TVET schools and trends in changes to operational status

In terms of MoGEI-related provision, for formal and non-formal TVET, a total of 21 operational schools is reported in 2021 in the Education Census report, six of which are governmental (formal) and the majority (15) non-governmental,[57] representing the non-formal provision. In the 2021 School Census, there were 13 non-operational schools within the provision under the control of MoGEI. An analysis of MoGEI figures reveals that the number of operational schools in 2021 increased by 61% from 2018 data (when 13 schools were operational in total), but this represents a decrease if compared with the 24 operational schools from the 2016 Education Census. While this volatile trend can be ascribed mainly to the state of conflict, other factors may also be at play. According to the results of the school questionnaire of the Education Census report of 2021, the main reasons for TVET schools becoming non-operational include supply and demand-side factors such as lack of learners and lack of teachers (35% out of the 2014 schools

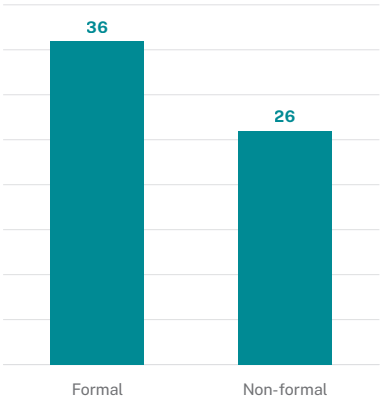
Figure 6.1 Number of operational MoGEI TVET schools, 2016, 2018, and 2021



Source: Education Censuses 2016, 2018, and 2021

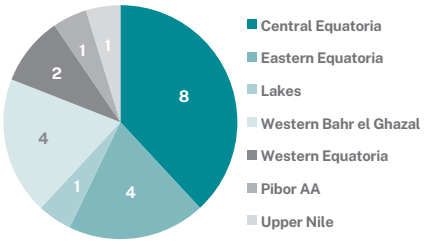
57 The difference between these two categories being that government schools are MoGEI-owned, but otherwise, they all follow the same curricula and deliver the same titles.

Figure 6.2 Operational TVET centres, formal and non-formal (AFDB mapping)



Source: AFDB mapping of TVET centres

Figure 6.3 Geographical distribution of formal and non-formal TVET schools, 2021



Source: Authors' elaboration based on Education Census 2021 dat

that became non-operational) rather than factors exogenous to the education system such as conflict and natural disaster (7% and 21%, respectively). This trend is in contrast with a broader education sector trend whereby conflict and natural hazards played a major role in school closure and discontinuation of education services. This suggests that conflict and natural events have not directly affected TVET school status, a finding that needs to be used with a degree of caution. Even though more specific context-specific explanatory factors are not provided, the small sample size might be one of the reasons for this finding. More extensive data collection is needed to identify the remote and immediate drivers of TVET school closure to prevent further closures.

The AFDB mapping, with a much broader scope given its focus on TVET provision from all line ministries, has found a total of 219 TVET centres, 49 of which (22%) are government-owned (formal) and 170 (78%) belonging to non-formal provision. However, only 62 centres (28%) out of the 219 were operational. Out of the operational centres, 36 (58%) are formal and 26 (42%) are non-formal and run by NGOs, community, and faith-based organisations. [58] Education census data also show the extent of geographical disparities in the distribution of formal and non-formal TVET schools. According to MoGEI data, the most illustrative figure concerns the number of states or administrative areas without operational formal TVET schools, which stands at six including two administrative areas.[59] While informal TVET provision may partly meet the skills training

58 The definition of 'formal TVET centres' adopted by the AFDB mapping is broader in scope than the MoGEI definition, only encompassing technical schools.

59 Abyei and Ruweng Administrative Areas and the states of Jonglei, Northern Bahr el Ghazal, Unity, and Warrap.

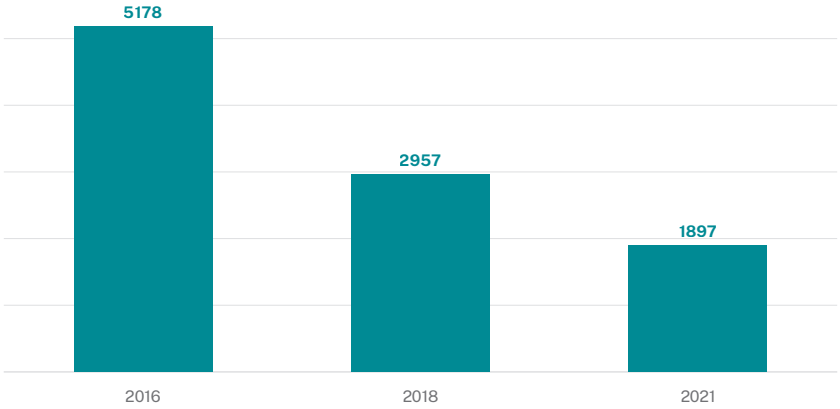
needs of a significant chunk of youth in these states, reviving MoGEI-led TVET provision in these states calls for immediate political and budgetary attention. As shown in *Figure 6.3*, the greatest concentration of MoGEI formal or non-formal schools is in the populous states of Central Equatoria (eight schools, +4 from 2018) and Eastern Equatoria (four, +1 from 2018). Populous states such as Warrap and Jonglei are left without any TVET school at secondary level belonging to this category.

The 2022 UNESCO report notes that there are 88 TVET institutions in the country, of which 48 are public, seven private, and 33 non-formal and run by NGOs or faith-based organizations. Out of this set of 88 TVET institutions, the majority (60) are operational, with a little over a third (28) being non-operational at present. In addition, the report also notes the presence of 111 non-vocational training and capacity-building centres offering short training courses for job seekers and the unemployed.

6.3.2 Enrolment trends and some key data on access and equity

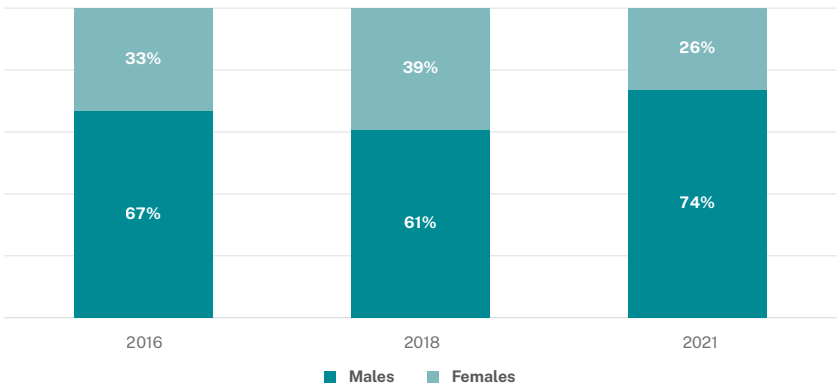
While all TVET centres in South Sudan gather data on student enrolments with basic levels of disaggregation, as noted by the 2018 UNESCO report on TVET EMIS, there is no central data repository on TVET centres encompassing the whole spectrum of TVET offer across different line ministries. For quantifying TVET enrolments, the present analysis looks at MoGEI figures first and then moves on to the wider-reaching AFDB mapping report. Overall student enrolment is on a constant decline, having decreased by 66% between 2016 and 2021, as shown in *Figure 6.4*. This declining trend is difficult to explain when measured against the mild decrease in the overall number of schools (a three-unit decrease from 2016 to 2021). It seems unlikely that such a decrease in the number of schools alone can account for a reduction of 3,281

Figure 6.4 Number of learners (formal and non-formal TVET)



Source: Education Censuses 2016, 2018, and 2021

Figure 6.5 Gender breakdown of formal and non-formal TVET learners, 2016, 2018, and 2021



Source: Education Censuses 2016, 2018, and 2021

students in MoGEI institutions. While other explanatory factors may be at play, this apparent inconsistency can likely be put down to poor data endowment.

According to the broader AFDB report, in 2019 the total TVET student population stood at 28,325. Roughly half of existing TVET enrolments accordingly come from non-formal TVET, with 13,268 enrolled students. This includes donor-funded projects such as EU-funded 'Empower' (5,100 learners), and others. [60]According to the AFDB report, MoGEI-led formal TVET provision would stand at 5,865 students and informal TVET provision would account for 4,232 students.

The UNESCO report notes that there are 39,953 TVET trainees in total. This analysis uses this broader estimate as the basis to calculate the number of TVET learners per 100,000 inhabitants, a key indicator used to gauge the role and reach of the TVET system. The global average for this indicator stands at 400. The indicator stands at 281 learners per 100,000 inhabitants,[61] which highlights the need for a significant expansion of TVET offer in the country.

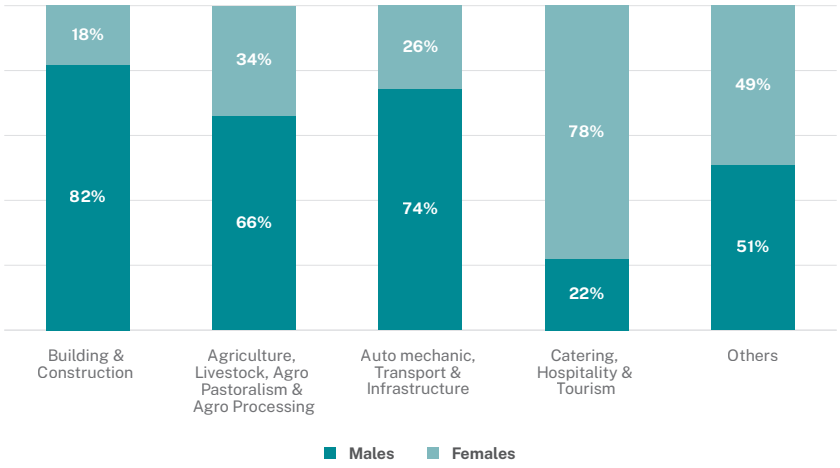
Since TVET is traditionally one of the education cycles with the widest gender gaps in terms of access, it is unsurprising to note that in 2021 across formal and non-formal TVET in MoGEI centres, only 26% of the student population were girls. *Figure 6.5* shows a volatile trend for this indicator across 2016, 2018, and 2021 data collection exercises by MoGEI.

The AFDB report paints an even more unequal picture than the MoGEI-based ASC. Out of the 28,325 students enrolled in the formal and non-formal schools, 85% (23,510) were males and 15% were females (4,817). Interestingly, the UNESCO report instead notes that females outnumber males (56% to 44%). Given the different

60 The most notable being UNIDO-UNDP project (2,140) as well as the United Nations Mission in South Sudan (UNIMISS), providing training to 1,781 learners and faith-based organizations such Society of Daughters of Mary Immaculate and collaborators (SDMIC) training 2,449 learners.

61 Based on population data for 2020 as presented in *Chapter 1*.

Figure 6.6 TVET enrolment across training areas disaggregated by gender



Source: Authors' elaboration based on Education Census 2021 data

methodologies and basis for calculations of the three reports, it is difficult to establish which one represents the most accurate picture of reality. However, two sources out of three indicate massive challenges in terms of gender equity in access to skills training opportunities. Accordingly, females stand to systematically lose out in this domain. More specific studies and analyses would be useful to gauge the interplay of a diverse set of barriers of a cultural nature (entrenched social norms and gender roles) and of other types and their impact on girls' access to opportunities for skills development in the South Sudanese context. Ultimately, however, whatever the most decisive factors in hindering girls' participation in TVET may be, their main consequences are evident and include fewer opportunities for skills training for girls resulting in poorer labour market participation at later ages. Sector-specific enrolment data collected in non-formal TVET centres and discussed later yield more concrete insights on the distribution of male and female students across different training fields.

Another important equity dimension to gauge whether a skills training system provides equal opportunities to all learners is that of disability. Data on learners with a disability are collected by EMIS, broken down by type of disability and level of impairment. Existing data indicate that there are 28 learners with disabilities across formal and non-formal TVET (slightly more than 1% of the TVET student population). This strikingly low number could potentially be explained by the following factors: 1) under-reporting of disability by surveyed education staff, due to social stigma; 2) major flaws in the identification of students with disability; 3) an actual pattern of systematic exclusion of students with any form of disability from TVET, including those with minor difficulties in hearing and vision. While these elements probably explain the low numbers of TVET participants with disabilities, they also appear intertwined: future progress in the strengthening of school-based data collection on disability prevalence may lead to a clearer picture to quantify any pattern of exclusion

and reduce social stigma at the stage of data collection.

Education Census data illustrate marked patterns of gender disparities in areas and trades that are considered typically masculine or feminine. As shown in *Figure 6.6*, formal TVET in areas related to the categories such as building and construction and auto mechanic transport and infrastructure is highly male-dominated and the same goes for agricultural-related courses, in which male enrolment outnumbers that of females.[62] The opposite is true for catering, hospitality, and tourism. The mixed category 'others' reports overall parity. A closer look at this residual category, however, reveals traditional gender-specific patterns, with tailoring being female-dominated (87%) and finance courses male-dominated (75%). These trends are in line with trends observed in medium and low-skilled trades in other labour markets in Africa, with pervasive and chronic gender divides reflecting traditional views on women's roles in the society and labour market (Alban Conto and Forti, 2022).

6.3.3 Some insights into the TVET teaching force

Adequately trained and well-paid instructors are the backbone of a well-functioning TVET system. Yet, data on the number of teachers, their level of training, and their working conditions are scarce in the country.

Figure 8 shows a volatile number of TVET instructors in the period 2016–2021 in MoGEI-related institutions and that their qualification level is primarily at the secondary schooling level (36%) and diploma level (34%).

Figure 6.7 Number of teachers, formal and non-formal TVET (2016-2018-2021)

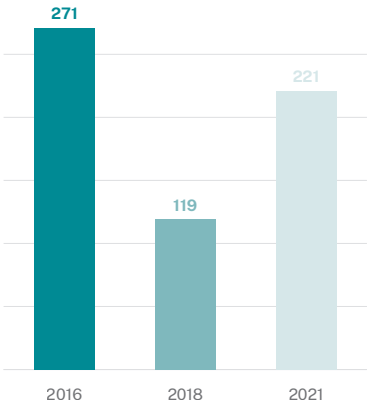
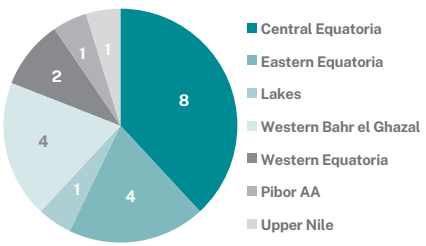


Figure 6.8 TVET teaching force by the level of study (2021)



Source: Authors' elaboration based on Education Census 2021 data

62 Raw data from EMIS 2021 on specific courses are clustered here around training sectors as per SSTQF classification.

Pre-service and in-service training systems are under or undeveloped. No Teacher Training Institutions for TVET are active in South Sudan. The absence of a dedicated training college means that in practice, TVET instructors do not receive dedicated pedagogical training, which makes them ill-equipped to transfer their knowledge and skills to trainees. The absence of any form of continuous professional development scheme for TVET trainers is also worth noting. The implications of a poorly trained teaching workforce are wide-ranging, with a direct impact on the quality and relevance of training. The establishment of a TVET Authority under the upcoming TVET Law should put teacher training at the forefront of future priorities, establishing clear pre-service training pathways as well as tools for continuous professional development, including regular exposure to industry practices.

According to the AFDB mapping, the total number of TVET instructors across South Sudan is 1,143. Out of these, female instructors (132) represent a mere 11 %, with male instructors (1,011) accounting for 88 %. Most recent Education Census data available (2018) are in line with this finding, with only 8% of the teaching force being composed of women. The UNESCO report instead identifies a total of 340 TVET trainers, of which a little less than a third are females. This goes to show the need to improve women's participation in the TVET teaching force, not just as a goal in and of itself but also as an indirect means to promote girls' participation in TVET.

Another important point brought up by the mapping regards the demographics of the teaching force in TVET. The trainer workforce in South Sudan is old, averaging 50 years, and this can be attributed to low salaries and a lack of career paths. The report showed that there was no teacher below 30 years and only 2% of instructors were in the age bracket of 30–40 years, a staggering figure in a country with an extremely young workforce and a very young population.

6.3.4 Facilities and infrastructure endowment

Sound facilities with adequate infrastructure and equipment for skills training are essential to the effective delivery of TVET. This is yet another area where data are scarce, with the little evidence available pointing to major deficiencies in infrastructure and to a strong need for future investments in essential infrastructure and facilities. Prolonged conflicts have played a major role in the deterioration of existing infrastructure and forcing the closure of a high number of schools (157 out of 219, according to the AFDB mapping).

On a positive note, according to 2021 Education Census data, TVET fares better than other education cycles when it comes to classroom conditions. Some 86% of MoGEI-managed classrooms are permanent and only 12% are temporary and operate under a tree, which represents an improvement from 2018 when only 68% of MoGEI TVET classrooms were permanent. According to Education Census 2021, in primary and secondary schools, the rate of permanent classrooms is 33% and 73%, respectively. While the present situation with TVET is far from ideal, in relative terms TVET seems well placed in the South Sudanese context in this respect. However, other indicators paint a less positive picture. Drinking water is provided mainly through

boreholes (40%, with a minority of schools having piped water systems or tanker supply (Education Census, 2021). Only four out of 21 (19%) MoGEI TVET centres have an internet connection and 11 out of 21 (52%) do not even have computers for students. Under these circumstances, existing learning environments for students are not conducive. Major investments are necessary to address the dire infrastructure conditions.

The status of the school infrastructure is a concern for all users, but it is more concerning for some vulnerable categories. The AFDB mapping notes that 82% of the vocational training centres do not feature female and disabled-friendly spaces (changing rooms, ablution blocks, and classrooms), which makes the learning environment less safe and less user-friendly for these categories.

In general, the little evidence available, coupled with anecdotal evidence from key informants, indicates a poor state of infrastructure in TVET centres.

6.3.5 Concluding remarks on the state of the South Sudanese TVET system

The highlights provided in this section through existing data sources and key informants' feedback highlights the magnitude of the existing challenges for the South Sudanese TVET system. Available data have unpacked key challenges of equity in access to training and the quality and relevance of training. The key takeaway is that due to the impact of conflict and pre-existing challenges, the South Sudanese TVET system is at an embryonic stage of development.

While the Unified National TVET Policy may strengthen overall system governance and overcome fragmentation, improvements on the normative front will need to be matched by the provision of adequate resources through targeted investments. Planning to allocate more resources to the system appears to be a key priority to make TVET a vehicle for greater youth employment and improved livelihoods across the country at a key juncture.

6.4 Labour market trends and external effectiveness of TVET

This section provides a general overview of the labour market context of South Sudan before assessing the extent to which TVET facilitates the transition of graduates to the labour market. Data availability is, again, a major issue which limits effective assessment of the external efficiency of TVET. As noted by the UNESCO report on EMIS in TVET:

'Questions such as "Are trainees learning?", "what are they learning?", "Are they finding employment or perceiving an increase in earnings after graduating?' are almost impossible to answer for most training programmes in South Sudan. 'UNESCO (2018).

Typically, a variety of sources can provide data regarding labour market trends and TVET outcomes at the national or local level. These include labour force surveys, employers' surveys, school-to-work transition surveys, tracer studies at national and local levels and any other data originating from Labour Market Information Systems' tools. However, in South Sudan, there has been no systematic data collection at the central or state level along these lines. This chapter thus relies predominantly on data originating from ad hoc surveys from specific projects. This includes as main sources of information: 1) a tracer study produced in 2020 by the EU-funded Empower project, with a sample of 432 Empower project graduates from four states;[63] 2) a 2018 labour market assessment conducted by UNESCO under the same project, and targeting the same states through several data collection tools including youth skills surveys and dedicated focus-group discussions; and 3) a 2022 World Bank study focusing on future opportunities for job creation in South Sudan. While limited in geographical scope and sample size, these reports yield informative findings discussed in this section. However, as widely noted in these reports, larger studies are needed to validate the findings of these analyses and distil further patterns to better inform an equitable expansion of the TVET system.

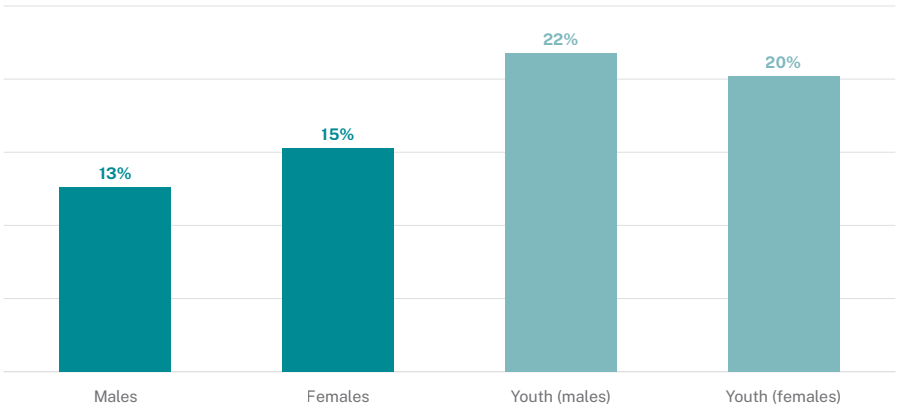
6.4.1 Main characteristics of the economy, labour market, and workforce

Broadly, conflict and instability highly have affected South Sudan's economy and labour market over the last decade. The combined impact of war, natural disasters, and the COVID-19 pandemic has disrupted labour markets, increasing vulnerability and hardship among South Sudanese.

The labour force participation rate, defined as the proportion of the population ages 15–64 that is economically active, is 74% for males and 70% for

63 Out of 5,100 project beneficiaries in Central Equatoria, Jonglei, Western Bahr el Ghazal, and Warrap.

Figure 6.9 Unemployment by gender and age group national estimate, 2021



Source: World Bank/ILOSTAT, 2021

females, in line with the global average of sub-Saharan Africa (68%, according to the World Bank).[64] Youths seem to be lagging, with rates of 56% and 61% for males and females, respectively.

Recent available data suggest that South Sudan, like many low-income countries, has low unemployment given that workers cannot afford idle periods. The allocation of labour is, therefore, driven by the individual need to engage in whatever economic activity is available to sustain livelihoods. Adopting a narrow definition of 'unemployment' that excludes the discouraged, overall unemployment stood at 14% in 2021.[65] When broken down by gender, male unemployment stood at 12.6% and female unemployment at 15% (World Bank/ILOSTAT). Higher values for youth (22% and 20%, respectively) are in line with trends in other low-income and fragile contexts.[66] The gap between youth unemployment and total unemployment seems higher for males than it is for females (9 percentage points difference), suggesting that young men are relatively more affected by unemployment than young women vis-à-vis the adult population. Yet, this finding should be taken with caution as it is likely to conceal high levels of inactivity among women.

Unemployment and labour force participation rate are, however, non-exhaustive labour market indicators. Extensive evidence shows that poor labour market performance in most low-income settings in sub-Saharan Africa is the result of a job quality issue rather than job availability. Given the lack of social safety nets, workers cannot afford long periods of unemployment, settling for any job that can offer them livelihoods in the

64 Labor force participation rate, total (% of total population ages 15-64) (modeled ILO estimate) - Sub-Saharan Africa | Data (worldbank.org)

65 Under this definition, 'unemployment' refers to the share of the labour force that is without work but available for and actively seeking employment.

66 'Youth' being the age bracket 15–24.

Figure 6.10 Male workforce distribution by sector

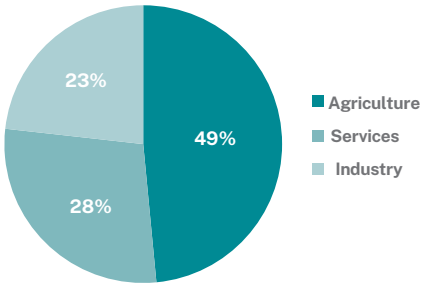
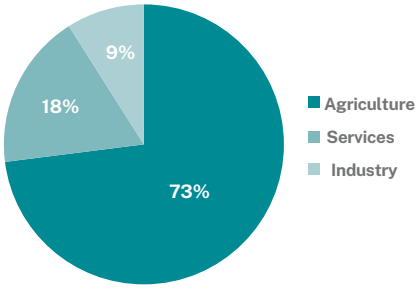


Figure 6.11 Female workforce distribution by sector



Source: World Bank/ILOSTAT database, 2019 data.

short term. In South Sudan, these indicators conceal a broader issue of quality of employment. This is confirmed by the scarce data available on job quality. Indicators to gauge this key dimension include the share of the self-employed population. Most self-employment takes place in informal contexts and ensures no stable income since it is often a result of the economy's inability to produce wage employment. In South Sudan, self-employment is pervasive, accounting for 92% of the labour force regardless of their sector of activity (World Bank/ILOSTAT, 2019). A more specific proxy indicator for the quality of employment is the vulnerable employment rate which computes contributing family workers and own-account workers as a percentage of total employment. According to World Bank/ILOSTAT data collected in 2019, 'vulnerable employment' stands at 90%. This indicator displays a remarkable gender gap, with men being considerably less exposed to vulnerable employment than women (86% and 95%, respectively). While no recent evidence is available, the economic impact of the COVID-19 pandemic has probably deteriorated the prospects for decent employment for South Sudanese of all ages. Further studies on the quality of employment, including sector-specific analyses, would be useful to shed light on this issue and provide key indicators, including the formal and informal employment rate and other indicators related to decent jobs.

The indicators above show that youth and women are the two main disadvantaged groups in terms of labour market integration. Interestingly, women's perceptions gathered through focus group discussions in the context of the Labour Market Assessment report suggest that there are no major barriers to accessing skills development opportunities, but that harassment and requests for sexual favours are frequent barriers to finding jobs. Further analyses would be necessary to unpack the set of obstacles that prevent a better integration of the female workforce into the labour market.

In breaking down the workforce in South Sudan by sector of activity, it becomes evident that the South Sudanese labour market is characterised by a high concentration of workforce in agriculture (60% according to World Bank/ILOSTAT 2019), mainly in subsistence farming and livestock. Women are more likely to work in the agri-

cultural sector than men: the share of the female workforce employed in agriculture is 73%, compared to 48% of the male workforce. This is in line with findings discussed previously on gender exposure to vulnerable employment since agricultural activities are typically informal, low-productive, and subsistence-based. Employment in services, including small-scale commercial activities often related to agriculture and livestock, stands at 23%, employing 28% of the male workforce and 18% of the female workforce. Overall employment in the industry stands at 16%, occupying 24% of the male workforce and approximately 9% of the female workforce. [67] Given the prevalence of informal, vulnerable employment in the agricultural sector, the current workforce distribution by gender is highly penalizing for women.

There is no data on employment in revenue-generating sectors like extractive industries related to oil and gas. However, they are likely to provide a modest employment contribution, given their capital-intensive nature. As is the case in other high-resource or low-income contexts, extractive industries employ a tiny fraction of the national workforce and rely heavily on high-skilled workers recruited from abroad.

While no recent quantitative assessment at a national level substantiates this claim, some qualitative analyses indicate that the South Sudanese labour market is highly informal, which is not a surprising phenomenon given the current state of the economy. Some analyses go as far as stating that there is no national labour market as such, given that 'the country does not have a national economy – rather, the economy appears to be composed of multiple small local markets that operate in isolation' (UNESCO, 2018). Accordingly, a variety of concomitant factors prevent the development of an interconnected labour market founded on value chains. These are high transaction costs, low skill base, and logistical barriers including a poor road network and low access to electricity. Other obstacles include financial constraints, difficulties in accessing credit, security issues, and exposure to natural hazards such as flooding and droughts. These issues, combined with the country's heavy reliance on oil revenues, create an unfavourable environment for economic diversification and labour market development, preventing the growth of sectoral value chains. This presents a conundrum for the skills development system as a whole: while its founding objective is to respond to labour demand, decision-makers also must embrace the fact that under the current economic situation, demand for skilled labour is very limited (World Bank, 2022). In addition to supply-side interventions to strengthen the general skill base of the South Sudanese population, sound and forward-looking economic policies and investments will be needed to use oil revenues for economic diversification to strengthen labour demand. While that goes beyond the jurisdiction and remit of the education and training constituency, it is an issue that the federal government would need to put high on its macroeconomic agenda.

In keeping with the figures discussed on workforce concentration in the agricultural sector, available data highlight that the

67 Even though this may sound like a high value in the context of a non-industrialized country with little or no transformation and processing capacity, it seems to have been inflated by the inclusion of the construction sector in the 'secondary sector' category.

South Sudanese national economy is highly rural, with rural areas providing 72% of the labour force (Finn et al., 2020). In these areas, farming, fishing, and herding for food are the most prevalent occupations for South Sudanese. While these activities mainly serve subsistence purposes, when market conditions are favourable, they also allow households to generate small incomes, with typical daily revenues at around USD 2 (Finn et al., 2020). Albeit insufficient for savings, these amounts can sustain individual livelihoods at levels marginally lower than the World Bank poverty line of USD 2.15 per person per day. As discussed in *Chapter 1*, the agricultural sector, broadly speaking, appears inefficient in terms of productivity. This may be a result of poor production techniques, limited access to quality inputs such as seeds and equipment, and high transport costs. In rural South Sudan, in settings marked by labour market homogeneity and the absence of sector-specific value chains, the traditional livestock sub-sector plays a pivotal role, employing approximately one million farmers, according to recent estimates (UNESCO, 2018). When all components of the agricultural sector – including farming, fishing or animal rearing – are considered, it employs 95% of the labour force, as discussed in *Chapter 1*.

Urban labour markets feature a higher concentration of service-oriented forms of employment. There is typically small-scale commerce involving non-wage jobs in the informal sector, generally self-employed (Finn et al., 2020) in areas such as tailoring, mechanics, and construction. Most workers are self-employed (46%) or support household-run business activities (27%). Interestingly, agriculture employs a significant share of the workforce even in urban areas, 36%, showing the crucial role of this sector for livelihoods.

As a result of high levels of informality, the formal private sector is undersized and the very few firms operating with continuity tend to be based in Juba. The economic structure lacks a network of domestic small and medium enterprises, the top employers in the formal private sectors being foreign-owned security firms. Even by low-income country standards, very few businesses operate in manufacturing and processing, where most of the economic surplus is generated.

The lack of data on the size of the workforce employed by the public sector makes it impossible to illustrate recent trends in public sector employment. However, recent analyses seem to point to a significant decrease in this segment, with a shift towards agriculture due to conflict and chronic instability. The above-mentioned World Bank report (Finn et al., 2020), which provides a rough estimate, indicates that in urban areas, approximately 16% of the population works in the public or NGO sector.

A worrisome feature of the national labour market is the pervasive prevalence of child labour mainly in armed conflict, farming, and cattle herding activities, [68] which calls for a major effort of the education system to reintegrate out-of-school children into schooling, whether through formal schooling or alternative education programmes (Accelerated

68 2018 data from the USA Department of Labour estimated a prevalence of child labour around 45% of the 10–14 age bracket (retrieved from https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2018/South%20Sudan.pdf)

Learning Programmes, Basic Adult Literacy Programmes, etc).

Despite little economic diversification and a dysfunctional labour market, there are opportunities ahead to be seized for South Sudan. Given the demographic structure of the country, characterized by a youth bulge and an expanding working-age population, South Sudan has the opportunity of seizing the 'demographic dividend', should fertility rates continue their downward path. However, using the country's age pyramid, population projections put the figure of labour market entrants in the next few years at 80,000 on an annual basis, which bears major implications for planning for TVET system expansion. In addition, the potential return of displaced South Sudanese – a total pool of refugees estimated at 2.3 million – currently in neighbouring countries could create extra demand for skills training. In addition to the ever-increasing cohorts of new labour market entrants resulting from demographic growth alone, the returnees – whose number is yet to be determined – may expand the pool of job seekers, strengthening the need to invest in skills development to meet growing employment needs.

6.4.2 An analysis of key available indicators on labour market transition of TVET graduates

Very few recent studies on labour market outcomes of TVET graduates are available in South Sudan. Despite a relatively small sample[69] and limited geographical scope (four states), the 2019–2020 tracer studies of the 'Empower' project present some interesting findings on the linkages between skills development and labour market outcomes. Data suggest increasing employment returns of vocational training: project beneficiaries report growing employment levels between 2019 and the end of the project in late 2020, rising from 24% to 74%. In terms of employment outlets, some 80% of employed graduates at the end of the project were engaged in self-employment, whereas 20% were employed by private firms or individual entrepreneurs. In the context of low demand for skilled labour, although these results must be accepted with caution, they can be seen as positive as they show a satisfactory employment return. Some 57% of the project's employed graduates landed full-time jobs, while 27% landed part-time jobs and some 15% got jobs as casual workers (Pars Research, 2020). The private sector absorbed the largest chunk of the project's graduates in employment (56%), while public enterprises, NGOs, and CBOs stood at 20% at 14%, respectively and local government at around 9%. The most common sectors of employment of the project's graduates include hospitality and cooking (22%) hairdressing (19%), shopkeeping (8%) and vending of food and tailoring (7% each).

Another key indicator of skills training effectiveness is the length of the job search following the completion of training. In the context of the Empower project, 67% of graduates either got a job or started their businesses within six months of graduation. While this is not a particularly negative value,

69 432 respondents out of the total 5,200 youths targeted by the project, which is representative of the project's beneficiary base but insufficient to account for the whole of the TVET target group in South Sudan.

the study notes that the project witnessed declining employment rates because of the impact of the COVID-19 pandemic. However, the report also notes that in the context of economic difficulties, trainees outnumber new job opportunities, resulting in unemployment and under-employment. The 2018 UNESCO Labour Market Assessment also investigates post-training employment experience. While the small sample size (42 respondents) limits any possible room for generalization, the assessment shows that most of them (60%) did not land a job one month after graduation, with some 25% having started their own business, and only a tiny minority having landed a job (10% approximately), suggesting that employment prospects for TVET graduates materialize over some time longer than one month.

Apprenticeships prove their role in helping TVET graduates transition into employment, with 96% of project graduates who underwent apprenticeship reporting that such schemes led directly to employment, mainly through retention at the apprenticeship's workplace. In a context dominated by informality, family networks are a major vehicle for employment, with 22% of project graduates reporting them as their direct channel to employment. Job advertisements on the media helped 20% of the project's graduates find employment, proving that these channels even in high-informality contexts should be strengthened. This is in line with the findings of the Labour Market Assessment, which is based on 180 respondents; they reveal that family networks are the prevalent channel to land a job (32% of respondents), with NGOs close second (29%).

The findings of this tracer study should be taken with a certain degree of caution, given the small sample and limited geographical scope. However, they yield interesting insights. They show that well-targeted vocational training schemes can go a long way in providing youth with skills that make them employable and help them land decent jobs in a relatively short period (Pars Research, 2021). However, this requires large initial investments, and the findings would need to be benchmarked against larger labour market studies and surveys.

Interestingly, while the general skill level of the population is sub-optimal, an employer survey by the World Bank reveals that the low skills base is not a major constraint for most businesses. Accordingly, other constraints carry more weight, including insecurity, market access, finance, and electricity. This is in line with the notion of a national context with low labour and low skill demand. Skills training, according to this survey, does not sit high among businesses' priorities, mainly because of the sheer scale of the other binding constraints. It should be noted, however, that given the short-term profit-oriented mindset of private sector actors, there is an inherent bias in their responses on their most immediate priorities. While the private sector's focus on short-term recovery is legitimate, at the political level, a more far-sighted outlook is necessary. It must acknowledge the mid-and long-term benefits of raising the skills level of the South Sudanese workforce. Data collected in the context of the Labour Market Assessment report addressing the obstacles that employers may face in hiring new employees indi-

cate skills gaps as a major constraint. The highest-ranking obstacle would be unrealistic salary expectations on the part of candidates, with lack of skills base ranking second, and soft skills ranking third.

For a skills training system to work properly, educational institutions need to establish services to smoothen graduates' integration into the labour market and build strong connections with the private sector. The Labour Market Assessment found that TVET centres do not provide job counselling and orientation services provided to students in South Sudan. That, coupled with the lack of dialogue and partnership with private sector actors, undermines the very objectives of skills training at the central and state level.

Information on graduates' satisfaction with skills training is hardly available. The Labour Market Assessment report shows that approximately 90% of respondents found their skills training 'very useful' or 'useful'. This is, however, based on a small sample (59 respondents), self-reported and, therefore, prone to standard survey biases, including subjectivity bias. More empirical evidence is necessary to better gauge the extent to which vocational training does lead to improved employment prospects and graduates' perception thereof.

6.4.3 Concluding remarks on the external effectiveness of TVET in South Sudan

The paucity of evidence on the ability of the TVET system to provide job-relevant skills calls for stronger efforts in raising the information base in this domain to inform future policies. Yet, available evidence seems to highlight that the South Sudanese skills development system is largely supply-driven rather than based on the skills needs of the private sector. A change of paradigm in the governance, management, and delivery of TVET to steer training towards emerging skills needs is imperative to strengthen its external effectiveness.

6.5 Recent initiatives to strengthen the TVET system: A new era for TVET in South Sudan?

The transformation of the TVET and skills development ecosystem of South Sudan will only happen because of strong government leadership as well as external aid from key technical and financial partners. These actors have unleashed an ambitious agenda for system reforms. In 2019, UNESCO in collaboration with the parliamentary sub-committees on education, labour, and youth established a 'National TVET Ad Hoc Coordination Committee'. [70]The committee, chaired by MoGEI and co-chaired by MoLIR, acts as a participatory mechanism involving all TVET stakeholders, social partners, and the 30 TVET line ministries. It functions as a transitional governance arrangement that paves the way for the establishment of the TVET Authority, under the umbrella of the Unified TVET Policy.

This section presents some of the main outcomes of the initiatives undertaken in the past few years, illustrating their potential benefits to unfold in the coming years. *Box 6.3* illustrates some relevant initiatives from development partners in more detail. These initiatives have fostered sector reform, financed key infrastructure rehabilitation, and expanded opportunities for skills training for vulnerable populations. Their role in the current national TVET landscape is therefore paramount, not only as a source of much-needed investment but also as a source of technical support to sector actors.

Given that system fragmentation is widely regarded as one of the core constraints to TVET development in South Sudan, UNESCO through its CapED project has promoted the drafting of a unified TVET policy, validated by sector stakeholders in June 2022. For the policy to be codified into national legislation, the two missing steps are its presentation to the Council of Ministers and its approval by the Transitional National Legislative Assembly (TNLA). This policy overrides the previous policies developed by MoLIR and the MoGEI,[71] embedding a life-long learning perspective and allowing all stakeholders to have a coherent policy document. Its vision is to 'create a skilled, well-integrated, empowered, self-confident, reliant, employable and creative individual for South Sudan labour market and beyond', with the mission to 'ensure free, equitable and access to quality and relevant inclusive skills development and lifelong learning TVET'. With this very ambitious goal, the main novelty of the Unified TVET Policy is the establishment of a national TVET Authority with coordination and regulatory functions, domiciled under a minister yet to be determined and composed of several thematic standing committees. The Authority is modeled around similar entities operating in other countries in the region like Kenya and Tanzania. The envisaged area of work of the TVET Authority spans governance, access and equity, and quality and relevance, including:

- The development of a South Sudan TVET Qualifications Framework (SSTQF).

70 It is composed of specific sub-committees chaired by various government ministries (policy and legislation, curriculum development and implementation, resource mobilization, qualification framework and monitoring and evaluation).

71 That is, the National Technical and Vocational Education and Training policy (MoGEI, 2018) and the South Sudan Vocational Training Policy (MoLIR).

Box 6.3: Development partners' initiatives in TVET and skills development

As mentioned, several donor-financed initiatives have been implemented in TVET recently. The following non-exhaustive list presents some key recent and ongoing initiatives:

1. 'Strengthening Technical and Vocational Education and Training (TVET) in South Sudan (2021–2025)', funded by SIDA (USD 11.9 million) and implemented by UNESCO. It supports MoGEI with a focus on strengthening TVET governance mechanisms, updating curricula, training instructors, and engaging the private sector in continuity with prior support by UNESCO under the CapEd project.
2. 'Empower II', funded by the EU (EUR 4 million), running in 2021–2022). It targets several line ministries involved in TVET, three states of Jonglei, Western Bar El Ghazal, and Central Equatoria. It supports the National TVET Ad Hoc Coordination Committee (NTAHCC) regarding state-level consultation in the development of the Unified National TVET Policy. In addition, the project will develop industry training guidelines for apprenticeship targeting seven priority trades: building and construction, tailoring and garment-making, hairdressing and beauty therapy, hospitality, agribusiness, auto mechanic, and solar PV system and electrical installation. Phase II of the EMPOWER project intends to reach out to 10,000 youths with technical and vocational skills training. Empower II follows the first cycle of Empower (EUR 7 million), from 2018 to 2021) and is implemented through a consortium of six organizations, with the Norwegian Refugee Council (NRC) as the lead implementing partner. Among Empower 1's achievements, is the rehabilitation of 11 TVET centres and the development of a unified National Competency-based Curriculum for non-formal TVET training for seven trades.
3. 'Youth employability skills promotion project', co-funded by the Kingdom of the Netherlands and the African Development Bank and implemented by UNDP (USD 2.4 million for 2020–2022),
4. 'Youth Employment and Empowerment through Private Sector and Value Chain Development' co-funded by the Netherlands, Japan, and UNDP for a total of USD 15.4 million and running 2018–2022 providing vocational training to some 6,000 youth in selected districts in Jonglei, Central, Western and Eastern Equatoria, and Lakes states.
5. Other recent or ongoing projects include the AFDB-funded 'Skills for Youth Employability and Social Inclusion (SYE-SS)'; UNDP South Sudan supporting Vocational Skills Development for Youth Employability and supporting inmates' vocational skills at the four prisons of Juba, Rumbek, Malakal, and Wau with funding from Turkey and the Netherlands; Egyptian Government funding to support the construction of three formal TVET secondary Schools at Uror in Jonglei State, Munuki in Juba town Central Equatorial State, Wau in Western Bar El Ghazal State; a Finnish Church initiative aid to train 100 TVET instructors; Strome Foundation's project training over 1,840 trainees on apprentice basis; and a NUFFIC project funded by the Netherlands focused on developing curricula for dairy processing.

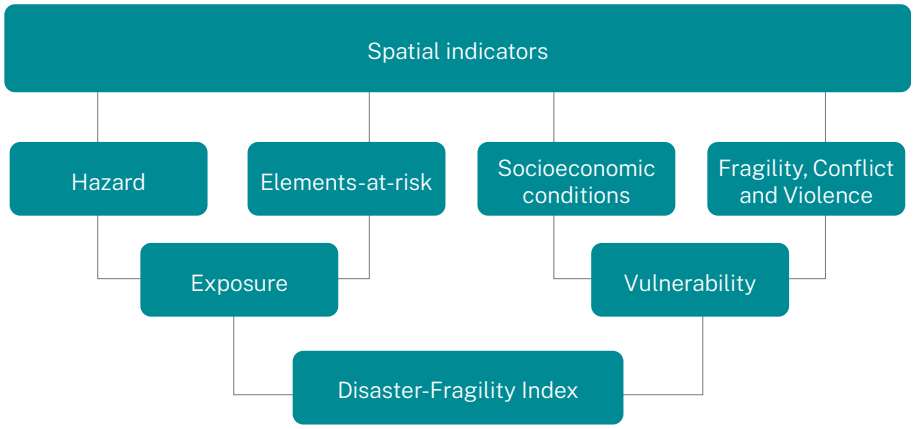
- Diversifying the TVET funding base, including, if possible, through a National TVET Fund to collect a new skills development levy and the establishment of a National TVET Sector Financing Policy.
- Setting up quality assurance guidelines and a National TVET Skills Assessment and Certification Body.
- Strengthening public-private partnerships for a more demand-driven TVET system, including through the establishment of sector skills councils.
- Ensuring wider participation by vulnerable groups in TVET.
- Establishing mechanisms for the Recognition of Prior Learning (RPL) to strengthen equity.
- Strengthening curriculum development through the production of Occupational Standards for all areas of skills training.
- Strengthening pre-service and in-service training of TVET instructors.
- Upgrading existing facilities with a focus on strengthening connectivity.

Considering the analysis presented in section 6.1, it appears that each of the above areas of work would contribute to system strengthening. The above areas are, by their nature, intertwined: stronger partnerships with the private sector would align curriculum content to existing needs through trade-specific occupational standards. Once these standards are set, level descriptors for that given trade are updated in line with the SSNQTF, which has repercussions assessment and certification modalities as defined by the National Skills Assessment and certification body, but also on pre-and in-service teacher training strategies.

The National Unified TVET Policy can, therefore, give a strong impetus to system renewal and lead the way for the much-needed expansion of the provision of formal, non-formal, and informal skills training opportunities to meet growing demand. However, to sustain this momentum, large-scale investments from the government and external partners are essential. Failure to earmark substantial amounts of public resources and to use available donor project funds for these purposes will jeopardize recent efforts to revamp the South Sudanese TVET system and, ultimately, undermine youth employability in the medium and long run.

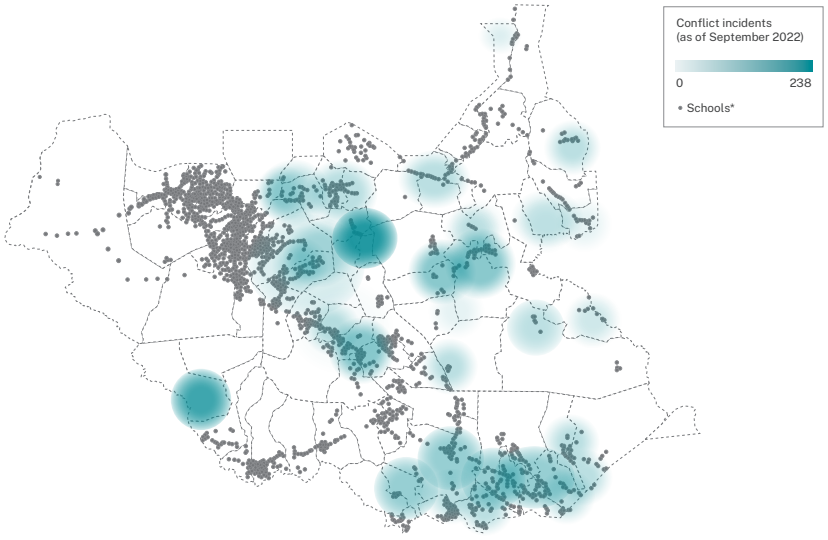
Annex

Figure A 2 Composition of Disaster-Fragility Index



Source: (The World Bank, 2020).

Figure A 3 Location of schools and conflict incident, 2022



Source: (The World Bank, 2020).

Annex 1 Coverage of states in the National Education Census

Census Year	2015	2016	2018	2021
Abyei Administrative Area		x		x
Central Equatoria	x	x	x	x
Eastern Equatoria	x	x	x	x
Jonglei			x	x
Lakes	x	x	x	x
Northern Bahr el Ghazal	x	x	x	x
Pibor Administrative Area				x
Ruweng Administrative Area				x
Unity			x	x
Upper Nile			x	x
Warrap	x	x	x	x
Western Bahr el Ghazal	x		x	x
Western Equatoria	x	x	x	x

Note: In the 2021 Education Census, two counties in Western Equatoria State (Naguero, Tabura) and two in Unity State (Mayendit, Leer) were not covered or were undercovered in the data collection process.

Annex 2 Risk indices and relative supply of schools by level of education, school-age population and number of schools, 2021

	Risk indices			System's capacity		
State	Exposure Index	Vulnerability Index	(Disaster-Fragility Index)	PPR	PRI	SEC
Unity	0.4	0.91	0.6	5,120.62	860.27	10,234.58
Northern Bahr el Ghazal	0.48	0.7	0.58	4,305.88	210.59	2,145.14
Jonglei	0.38	0.81	0.56	18,193.79	711.21	11,337.59
Upper Nile	0.52	0.56	0.54	1,220.65	722.60	5,269.53
Warrap	0.34	0.74	0.51	4,433.63	246.49	2,555.13
Eastern Equatoria	0.34	0.41	0.37	1,536.11	809.07	4,434.70
Central Equatoria	0.37	0.32	0.34	565.79	430.48	1,639.28
Lakes	0.16	0.68	0.32	3,503.22	362.41	4,960.79
Western Bahr el Ghazal	0.14	0.39	0.23	688.65	200.99	1,401.92
Western Equatoria	0.07	0.13	0.1	528.13	243.77	2,217.46

Source: World Bank, 2021 and authors' calculations using NEC 2021.

Annex 3 Gross enrolment rates by country in the Eastern African Community, and level of education

Country	Pre-primary	Primary	Secondary
Burundi (2019)	12	89	28
DRC (2020)	5.7	107.3	43.7
Kenya (2016, 2014)	76	103	60
Rwanda 2019	22	131	43
South Sudan	11	59	12
Uganda (2017, 2014)	15	103	23
Tanzania (2020)	79	100	32
Average	32	99	34

Annex 4 Enrolment in non-formal education by gender and school ownership

Center ownership	Male	Female	Total	%Proportion
Private	2,383	1,916	4,299	4.6
Faith based	3,095	2,576	5,671	6.1
NGO	3,512	3,852	7,364	7.9
Community	9,831	9,670	19,501	20.9
Public	28,918	27,439	56,357	60.5
Grand Total	**47,739**	**45,453**	**93,192**	**100.0**

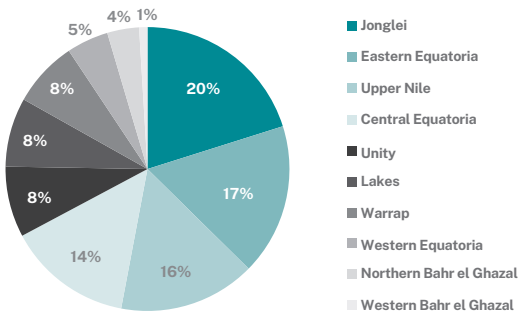
Source: Authors' computations using the Education Census Database, 2021

Annex 5 Enrolment in non-formal education by state and gender, and proportion of female students by state, 2021.

State	Male	Female	Total	% of females
Abyei Administrative Area	58	86	144	59.7
Central Equatoria	3,976	4,291	8,267	51.9
Eastern Equatoria	2,160	2,718	4,878	55.7
Jonglei	4,085	3,617	7,702	47.0
Lakes	4,177	2,011	6,188	32.5
Northern Bahr el Ghazal	8,861	9,289	18,150	51.2
Pibor Administrative Area	1,353	340	1,693	20.1
Ruweng AA	1,862	1,865	3,727	50.0
Unity	4,512	3,607	8,119	44.4
Upper Nile	3,093	3,624	6,717	54.0
Warrap	8,064	7,136	15,200	46.9
Western Bahr el Ghazal	2,898	2,496	5,394	46.3
Western Equatoria	3,061	3,952	7,013	56.4
Enrolment	48,160	45,032	93,192	48.3

Source: Authors' computations using the Education Census Database, 2021

Annex 6 Distribution of OOSC by state, 2021



Source: Authors' computations using the Education Census Database, 2021

Annex 7 Percentage of excluded children and out-of-school children, 2021

	Pre-primary age excluded children			Primary age OOSC			Secondary age OOSC		
State	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Central Equatoria	82.3	81.9	82.1	74	71	73	40	36	38
Eastern Equatoria	94.7	95.0	94.8	83	84	83	74	75	74
Jonglei	99.3	99.2	99.2	79	84	81	54	66	59
Lakes	97.2	97.9	97.5	52	64	58	13	33	23
Northern Bahr el Ghazal	98.8	99.0	98.9	27	28	27	20	11	15
Unity	96.5	96.7	96.6	80	84	82	44	52	48
Upper Nile	91.8	91.2	91.5	79	78	78	65	62	63
Warrap	98.8	98.7	98.8	43	50	47	5	20	12
Western Bahr el Ghazal	87.8	86.6	87.2	20	23	21	-3	-7	-5
Western Equatoria	83.0	82.2	82.6	48	48	48	58	56	57
Total	**93.7**	**93.7**	**93.7**	**64**	**66**	**65**	**41**	**44**	**43**

Source: Authors' computations using the Education Census Database, 2021

Annex 8 Proportion (percentage) of closed schools by level of education and state, 2021

State	AES	PPR	PRI	SEC
Abyei Administrative Area	.	.	5.70	33.30
Central Equatoria	8.00	16.10	19.40	14.50
Eastern Equatoria	6.70	6.30	27.30	15.70
Jonglei	30.90	67.60	13.80	8.70
Lakes	37.00	18.00	14.00	11.80
Northern Bahr el Ghazal	25.50	11.80	9.80	10.80
Pibor Administrative Area	0.00	0.00	23.50	71.40
Ruweng AA	25.00	6.00	25.00	12.50
Unity	12.90	17.90	43.80	29.40
Upper Nile	25.50	3.90	24.60	37.50
Warrap	22.90	9.30	22.10	14.10
Western Bahr el Ghazal	20.00	3.50	12.10	21.40
Western Equatoria	35.20	8.20	10.10	10.60
Grand Total	23.80	12.10	18.60	17.30

Source: Authors' computations using the Education Census Database, 2021

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