

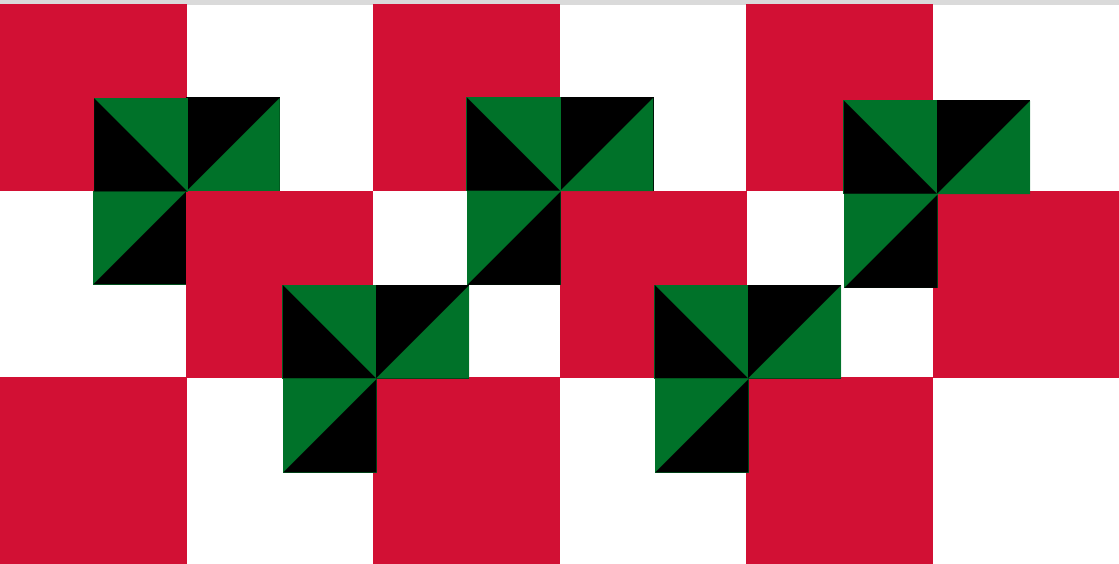


United Nations
Educational, Scientific and
Cultural Organization

Sudan

Education Policy Review

Paving the road to 2030



Education
2030

Sudan

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Paving the road to 2030

March 2018



Sudan Education Policy Review conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in cooperation with the national team in Sudan, the UNESCO Office in Khartoum and the UNESCO Regional Office in Beirut.

Section of Education Policy (ED/PLS/EDP)
Education Sector
UNESCO
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Acronyms and abbreviations

AfDB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
B.A.	Bachelor of Arts
B.Ed.	Bachelor of Education
B.Sc.	Bachelor of Science
CAPNAM	Capacity Needs Assessment Methodology
CAR	Central African Republic
CBR	Country Background Report
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CELE	Centre for Effective Learning Environments (OECD)
CONFEMEN	Conference of the Ministers of Education of French-speaking Countries
CPA	Comprehensive Peace Agreement
CSF	Community Systems Foundation
DfID	Department for International Development (UK)
DR Congo	Democratic Republic of Congo
ECG	Education Coordination Group
EDSS	Education Decision Support System
EFA	Education for All
EMIS	Education Management Information System
EQUIP	Educational Quality Improvement Program
ERfKE	Education Reform for Knowledge Economy
EU	European Union
FMoGE	Federal Ministry of General Education
GDP	Gross Domestic Product
GEM	Global Education Monitoring
GER	Gross Enrolment Rate
GIS	Geographic Information Systems
GPE	Global Partnership for Education
GPI	Gender Parity Index
HAC	Humanitarian Aid Commission
HCT	Humanitarian Country Team
HIV	Human Immunodeficiency Virus
HQ	Headquarters (UNESCO)
IBE	International Bureau of Education
ICT	Information and Communication Technology
IDP	Internally displaced person

IIEP	International Institute for Education Planning
ILO	International Labour Organization
ISCED	International Standard Classification of Education
SETI	In-Service Education Training Institute
JEM	Justice and Equality Movement
KRT	Key Resource Teacher
LAMP	Literacy Assessment and Monitoring Programme
LEG	Local Education Group
M&E	Monitoring and Evaluation
MoE	Ministry of Education
MoES	Ministry of Education and Sports
MoFNE	Ministry of Finance and National Economy
MoHESR	Ministry of Higher Education and Scientific Research
MoLPSHR	Ministry of Labour, Public Service and Human Resource Development
MTEF	Medium-Term Expenditure Framework
NCCER	National Centre for Curriculum and Educational Research
NCEP	National Council for Education Professions
NCLAE	National Council for Literacy and Adult Education
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
OOS	Out Of School
PASEC	CONFEMEN Programme for the Analysis of Education Systems
PTA	Parent-Teacher Association
PIRLS	Progress in International Reading Literacy Study
QCS	Quarter Century Strategy
REFLECT	Regenerated Freirean Literacy through Empowering Community Techniques
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Education Quality
SAF	Sudanese Armed Forces
SbTD	School-based Teacher Development
SDG	Sudanese pounds
SDG	Sustainable Development Goal
SELTI	Sudan National Centre for Languages
SESA	Sudan Education Sector Analysis
SLA	Sudanese Liberation Army
SMoGE	State Ministry of General Education
SOU	Sudan Open University
SPLA	Sudanese People's Liberation Army
STR	Student-Teacher Ratio
SWAps	Sector-Wide Approaches
TIMSS	Trends in International Mathematics and Science Study

TNTC	Teachers National Training Centre
TTI	Teacher Training Institute
UIS	UNESCO Institute for Statistics
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESS	UNESCO National Education Support Strategy
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
US	United States
USAID	United States Agency for International Development
USD	United States dollar
WB	World Bank

■ Introduction

BACKGROUND

In 2016–17, UNESCO was tasked with carrying out an education policy review for Sudan. As part of this process, it was agreed that UNESCO and the Government of Sudan would review and assess three education policy domains based on sector priorities, and provide a set of policy recommendations to contribute to educational development in the country.

These three policy domains are:

- Teacher policies
- Literacy policies and out-of-school children
- Sector-wide policy and planning

The UNESCO policy review combines various sources of information:

1. A Country Background Report (CBR), prepared by the national team (appointed by the national authorities) in accordance with UNESCO policy analysis guidelines, and intended to provide baseline factual and descriptive information. The CBR is designed to help build empirical evidence about education quality and equity in Sudan and to incorporate the views of national experts.
2. A UNESCO benchmarking fact sheet, which provides basic information about how the country's education system is performing in comparison to other countries.
3. A UNESCO literature review of recent works on education policy in the country.
4. A series of three missions: 1) scoping, 2) fact-finding and interpretation, and 3) validation. These missions involved cooperation between a national team and an international team. The international team was composed of UNESCO staff (HQ and UNESCO Beirut) plus international experts in the policy domains considered critical for the improvement of the education system.
5. A final report, which includes policy recommendations. This is the main outcome of the policy review.

As requested by the authorities, the review was conducted from a sector-wide perspective and thus includes overarching aspects related to planning and management in the education sector.

STRUCTURE OF THE REPORT

The first chapter of this report presents an overview of the economic, social and human development context of Sudan, particularly those aspects most relevant to the review, as well as an overview of the country's education system. It also provides a comparative analysis of education system performance in Sudan, with a focus on access, equity, quality, efficiency and effectiveness.

Chapter 2 presents an in-depth analysis of teacher policies and the policy issues and priorities in this domain, including planning, management, accountability, initial training, recruitment, retention and professional development. This section concludes with a series of policy recommendations.

Chapter 3 provides an in-depth assessment of literacy policies and issues, covering both out-of-school children and adult literacy, which are examined in light of evidence and accompanied by a set of corresponding policy recommendations.

Chapter 4 analyses the performance of the education system as a whole through a sector-wide policy and planning perspective. The policy issues are examined in light of evidence with a set of corresponding policy recommendations.

A conclusion provides a brief overview of the underlying issues and cross-cutting recommendations as the necessary foundation for improvement in light of the Education 2030 Agenda.

REVIEW METHOD

With the support of the Federal Ministry of General Education (FMoGE) and the Ministry of Higher Education and Scientific Research (MoHESR), the policy review team adopted an external perspective to identify achievements, relative strengths, weaknesses and policy bottlenecks in the education system in Sudan.

The methodology was based on empirical research – first on multiple contextual elements (including demography, economy and society) and then on the education system's performance – using a variety of sources and methods, both quantitative and qualitative. The process involved in-depth analysis of policy documents, national

background papers and international and regional comparative data measuring education system performance in Sudan. This research was verified primarily through interviews and consultation with ministerial officers from various divisions of the ministries as well as with other education stakeholders at central, state and local levels. These included officials, policy-makers and senior technical staff in the two ministries; senior education officers; the National Council for Literacy and Adult Education; the National Council for Teacher Education; various non-governmental organizations (NGOs) active in education; the national team; headmasters, teachers and students at primary and secondary levels; teachers' unions; and development partners.

Field data elicited from each of these stakeholders, together with prior research, provided the foundation for identifying both domain-specific and cross-cutting issues, without the imposition of any explicit theories for interpreting the data.

Through interpretation of contextual elements (demography, economy and society), analysis of education system performance and verification of findings through stakeholder interviews, the review team was able to develop the series of recommendations presented herein, which address the issues identified in each domain.

The weight or significance of these recommendations has also been measured against criteria of cost, difficulty, priority and the estimated time needed for implementation.

BOUNDARIES AND LIMITATIONS

While the final report is based on extensive research and numerous interviews held during several field visits, it is by no means an exhaustive analysis of the issues at play. Such an analysis, were it possible, would require much greater access to primary data, a longer time-frame and broader consultation with stakeholders, in particular non-state actors. Such an approach is not feasible in a study designed to provide an external review of only the most pressing issues in each of the three selected policy domains.

In addition, the review team sometimes found it difficult to gain access to written policy documents, which means that they often had to rely on interviews with government officials in regard to policy details and objectives. This may have introduced some bias into the analysis. The lack of disaggregated data also made it difficult to reference specific information to validate findings. This in turn created difficulties in distinguishing between ambitions, goals and initiatives already implemented by the ministries. It was often found that potential issues had already

been identified and plans put in place to address them, but that the degree of success was difficult to quantify and qualify. Hence further areas for research have been identified by the review team.

This final report is designed to contribute to the upcoming five-year education strategic plan (2017–2021) and the achievement of the Sustainable Development Goal (SDG) 4 targets by providing a solid platform upon which updated and ongoing analysis of the most pertinent issues identified here can be built. It is hoped that the resulting review will provide a significant impetus for ongoing policy reform in the context of the Education 2030 Agenda.

■ Chapter 1: Background and overall assessment of the education system

SECTION 1: OVERVIEW OF THE SYSTEM

1.1. Background and context

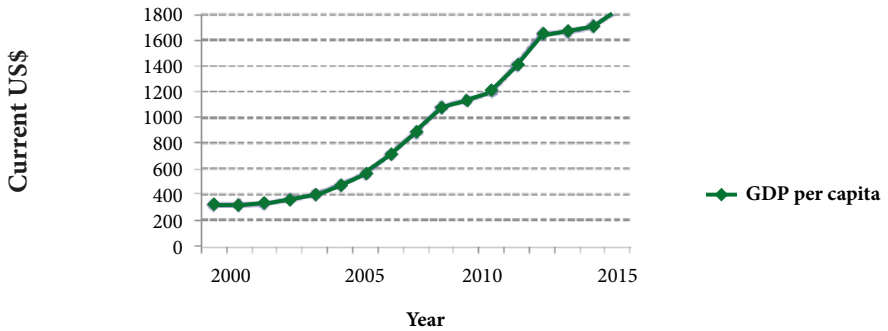
Sudan gained its independence from Anglo-Egyptian rule in 1956. Since then, it has had a turbulent history of political conflicts. The first Sudanese civil war erupted in 1955 because of southern rebel groups seeking independence and fighting against the Sudanese Armed Forces (SAF) from the central government. The conflict ended in 1972 with the signing of the Addis Ababa Agreement, which was incorporated into the constitution and granted more autonomy to the southern region. The second civil war started in 1983. It was largely a continuation of the previous conflict, inflamed by a presidential decision to divide the southern region into three regions whereby the southern region was excluded from sharia law. The conflict between the Sudanese People's Liberation Army (SPLA) and the SAF lasted for twenty-two years and ended in 2005 with the Comprehensive Peace Agreement (CPA), which resulted in a popular referendum leading to the independence of South Sudan six years later, on 9 July 2011. In the meantime, the military coup of 1989 brought still-in-service president Omar al-Bashir to power. In 2003, other conflicts erupted in the northern part of Sudan between rebel groups, including the Sudanese Liberation Army (SLA) and the Justice and Equality Movement (JEM), against the SAF in Darfur. In 2011, the Doha Peace Agreement was adopted with the intention of ending the Darfur conflict. Following the disputed presidential election of 2010, conflict erupted between SAF and other rebel groups based in South Kordofan, Blue Nile and the eastern region. There are also remaining tensions between Sudan and South Sudan on several issues including the disputed Abyei area, the division of oil revenues and access to water resources.

1.2. Socio-economic context

Thanks to the rapid development of the country, largely from oil profits, in 2010 Sudan was the seventeenth-fastest-growing economy in the world. Indeed, Sudan's economy grew sharply after the beginning of oil exportation in the 1990s. Between 1996 and 2011, gross domestic product (GDP) per capita more than quadrupled,

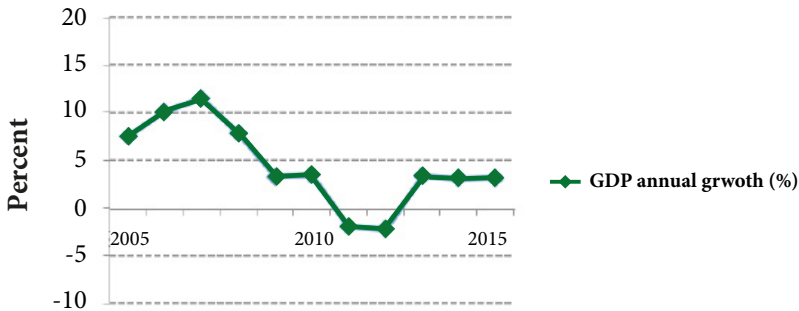
and GDP growth attained an unprecedented peak of 11.5% in 2007 (World Bank, 2017). However, the secession of South Sudan in July 2011 caused multiple economic shocks and seriously affected the economy, as more than 80% of Sudan's oil fields were located in the southern part of the country, and oil accounted for 75% of government revenues and 95% of exports. As a result of this strong dependence on oil and the subsequent loss of oil revenues, the growth of both industrial and service sectors fell into the negative in 2012. The situation was further exacerbated by continuing tensions between Sudan and South Sudan over the lack of agreement on transit fees for oil from South Sudan. In addition to this, conflicts and armed violence have gravely affected social and economic development prospects in the country.

Figure 1: GDP per capita (USD), 1999–2012



Source: World Bank, 2017.

Figure 2: GDP annual growth (%), 2005–2015

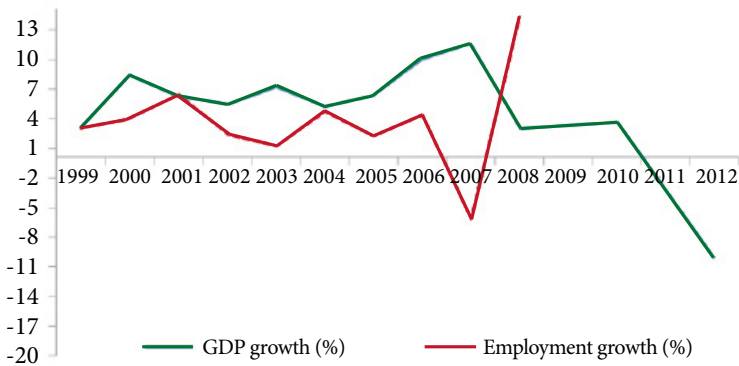


Source: World Bank, 2017.

Nonetheless, Sudan benefits from rich natural resources including natural gas, gold, silver, chromite, asbestos, manganese, gypsum, mica, zinc, iron, lead, uranium, copper, kaolin, cobalt, granite, nickel, tin and aluminium. Historically, agriculture has remained the main source of income and employment in the country, employing over 80% of Sudanese people – 45% of youth and 42% of adults are directly employed in the sector – and making up a third of the economic sector (UNDP, n.d.; AfDB et al., 2012). Despite this strong agricultural orientation, oil production drove most of Sudan’s post-2000 growth. In the agricultural sector, the government has tried to diversify its cash crops; however, cotton and gum arabic remain its major agricultural exports. Livestock production also has vast potential, and many animals, particularly camels and sheep, are exported to Egypt, Saudi Arabia and other Arab countries. Problems with irrigation and transportation are still the greatest constraints to a more dynamic agricultural economy. The government continues to engage in strategic partnerships with local and foreign private investors in order to increase agricultural exports and absorb the shock of losing oil revenues.

The overall economic growth in Sudan has not translated into equivalent human development improvements or poverty reduction. Data from the 2010 national household survey show that the labour force participation and unemployment rates among youth were 32.9% and 22%, respectively, compared to 43% and 11% for adults (AfDB et al., 2012). Moreover, in 2010, 46.5% of people lived under the poverty line, and significant disparities between urban and rural areas were and still are apparent, contributing to an increasingly urban informal sector that accounts for more than 60% of Sudan’s GDP (UNDP, n.d.). Investments and services are concentrated in and around Khartoum State, which has encouraged a rural–urban migration that weakens agricultural productivity and deepens poverty in both urban and rural areas.

Figure 3: Real GDP and employment trends, 1999–2012



Source: ILO, 2014.

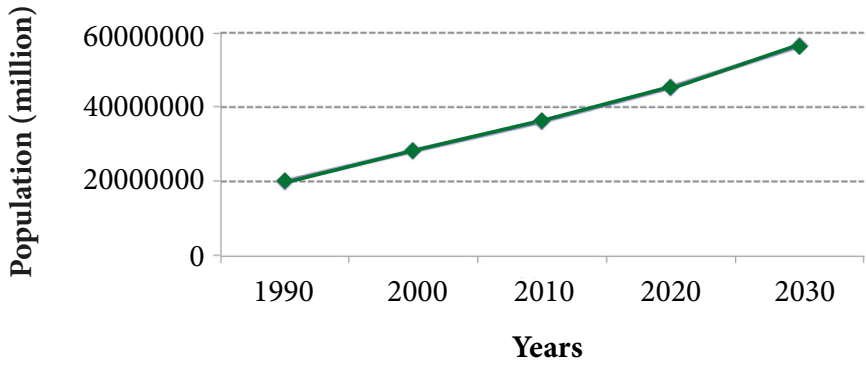
1.3. Demography

Sudan is the third-largest country in Africa, and its people are diverse in terms of cultural and historical heritage. However, today 97% of the population is Sunni Muslim, with most citizens speaking Sudanese Arabic. In addition to a small Christian minority, more than 150 ethnic groups and tribes with many distinct religious and linguistic affiliations live in the country, and about 9.1% of the population is nomadic (FMoGE, 2012). Sudan's long history of political instability and civil war has forced large numbers of internal displacements within the country. The number of internally displaced people (IDPs) has been steadily increasing from 841,949 in 2005 to 2,174,000 in December 2015 (UNHCR, 2015). Sudan also has a longstanding tradition of hospitality towards refugees and asylum seekers (mainly coming from neighbouring African countries including Eritrea, South Sudan, Chad and the Central African Republic), with around 254,740 living in the country in December 2015.

In 2014, there were more than 39 million people living in Sudan. Most Sudanese are located in rural areas, with only around one-third living in cities. The country has a young population: 41% of Sudanese people are aged 14 years or younger, and 20% are between 15 and 24 years old. With an annual growth rate of 2.1% in 2014, as well as a high fertility rate of 4.4 children born per woman, the population of the country is growing rapidly. Thus, despite a high infant mortality rate and one of the world's highest maternal mortality rates, the population of Sudan is expected to continue rising. If trends continue, projections show that Sudan will have a population of 56,442,992 in 2030, 50.2% of whom will be male and 49.8% female (World Population Review, 2016).

At the same time, demand for pre-primary education in Sudan has shown an upward trend from 2010 to 2013 (UNICEF, 2015). For the same period, the gross enrolment rate (GER) for primary and secondary school also increased slightly, despite an unstable growth pattern. Yet Sudan has both the largest number and highest rate of out-of-school children in the Middle East and North Africa region. Education Management Information System (EMIS) data from 2010 indicate that about 3 million children between the ages of 5 and 13 years old remain out of school in the country. Thus, in spite of a small share of repeaters and high transition rates, education is not provided for all children in the country. This makes the demographic pressure a threat for education, as Sudan still has a long way to go to achieve universal primary education.

Figure 4: Sudanese population growth (in millions), 1990–2030



Source: World Population Review, 2016.

SECTION 2: EDUCATION SYSTEM

2.1. Background

In 1990, the government of Sudan launched a large-scale education reform for all levels of the education system. The former educational ladder of 6+3+3 was replaced by the new educational ladder of 2+8+3, which comprises thirteen years of schooling for general education. The school year is now divided into two semesters and has been extended from 180 to 210 working days. The length of the school year as well as the timing of the secondary-school examination are determined by the FMoGE. It is then left to the individual states to decide upon the most suitable school calendar. The primary language of instruction at all levels is Arabic. Schools are concentrated in urban areas; many in the south and west have been damaged or destroyed by years of civil war.

According to the Interim National Constitution of the Republic of Sudan (2005), basic education – from age 6 to age 13 – is compulsory and should be provided by the state free of charge (IBE-UNESCO, 2012). Despite this, parents usually have to financially contribute for textbooks, school uniforms, examinations fees and sometimes even teachers' salaries.

As a result of the Interim National Constitution and the CPA, a decentralized three-tier system of general education delivery was implemented in the country. This system is made up of the FMoGE, which is responsible for planning, monitoring and coordination; the state ministries of education (SMoGEs), which are in charge of executive functions; and the *mahalyas* (localities), which are concerned with the delivery of education services.

2.2. National education reforms, acts and laws

The three main goals of the basic- and higher-education reforms were to Arabize, Islamize and expand access to the Sudanese education system. To this end, Arabic was introduced as the official language of instruction during the academic year 1990/91 (IBE-UNESCO, 2012). Islamic values and heritage also became central to curriculum development at this time. For higher education, Muslim scholars within the MoHESR were in charge of creating a new curriculum. Their initial project was to introduce Islamic heritage and Western scientific knowledge, but they lacked academic and financial resources. The third goal was to expand basic and higher education to meet economic development needs. Overall, there has been an unprecedented horizontal expansion of education coverage in Sudan. Throughout the 1990s, oil revenues were

used to expand infrastructure and increase the number of teachers, many of whom were sent for training abroad, especially to non-Western countries.

■ Education acts and laws

The **General Education Act of 1992** covers general education objectives, examination regulations, education policies and general administration. The approved curriculum is to be applied nationwide, and Arabic is the official language of instruction. Religious education is compulsory. The general objectives of education as stated in the act are to instil religious ideals, beliefs and morals in the young people as well as national pride and cultural heritage; to encourage creativity and ambition; and to build up individuals' abilities and skills through technological training so as to fulfil the goals of comprehensive development.

The 1992 act was abrogated by the **General Education Planning and Organization Act of 2001**, which stipulates the right to education for all children of eligible age without discrimination (the introduction of compulsory basic education was initially planned for 1995 but took effect in 1998).

The **Higher Education Act of 1990** specifies the aims and goals of higher education as well as the curricula and types of higher-education institutions and their objectives. It recognizes Arabic as the official language of instruction.

Council of Ministers Resolution No. 1799 of 1990 added a two-year pre-school level as an integral part of general education.

The **Basic School Regulation Act of 1992 and the Secondary School Regulation Act of 1992** are both concerned with pupils' affairs such as rules regarding intake, class size, school uniforms, general conduct, functions and duties of the staff, examination and modalities, and rewards and punishments.

The **National Centre for Curricula and Education Research Act of 1996** states the responsibilities of the council in the field of curriculum development and educational research, and aims at strengthening links with regional and international educational institutions.

In 2003, a law was promulgated to regulate non-governmental education. Schools can teach the approved translation of the national syllabus in English and add extra materials to the national curriculum.

Ministerial Resolution No. 5 of 2004 was issued to reform technical secondary education. The committee recommended the creation of a National Council for Technical and Technological Education (implemented in 2005 under Ministry of

Labour, Public Service and Human Resources Development). It also recommended the rehabilitation of schools and colleges and an increase in education expenditure to at least 3% of GDP, and encouraged the private sector to invest in technical and technological education.

The new **Child Act of 2010** states that every child shall have the right to general education free of charge. The state shall endeavour to provide free secondary education for orphans, children with disabilities and children of unknown parents, and to include in the curricula spiritual and religious instruction, national instruction and instruction on the principles of human rights.

2.3. Subsector analysis

■ 2.3.1. General education

The FMoGE plans, coordinates and monitors across the three general education levels. Policy development and research, curriculum development, secondary level certification and teacher qualification also fall under its responsibility. On the other hand, the states and localities are in charge of human resource management, primary level certification, and delivery of pre-school, basic and secondary education.

General education schooling lasts thirteen years and is composed of three main levels:

Pre-primary level

Children who are 4 years old can enrol in pre-schools for two years. Pre-school education is offered by kindergartens or traditional Islamic schools. This level is neither free nor compulsory. The pre-school curriculum is provided by the SMOGEs.

Primary level

Compulsory education starts at primary level, designed for children ages 6 to 13. This level lasts eight years (Grade 1 to Grade 8) and ends with an exam-based Basic Education Certificate.

The national curriculum – introduced in the 1996/97 school year for the first three primary grades – puts a strong emphasis on practical aspects and life skills and includes population, environment and health education. The curriculum focuses on thematic areas, such as a course entitled “Man and the Universe,” which includes foundations in theology and science. The basic-education cycle comprises five core subjects including religion, mathematics and languages.

Secondary level

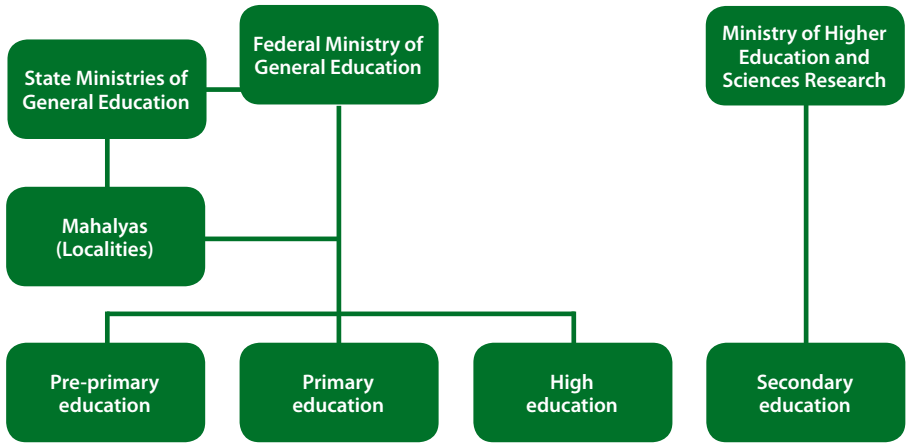
Pupils from ages 14 to 16 can attend secondary education, which lasts three years and comprises nine core subjects (including Islamic studies, English, history and mathematics as well as optional subjects in computers, agriculture, commercial science, etc.). The first two years are common to all students. In the last year, students have to choose between two different paths: arts or science. At the end of the secondary level, students sit for the Sudan School Certificate examination.

The National Centre for Curriculum and Educational Research (NCCER) within the FMoGE is in charge of developing the national curriculum in accordance with national policy for basic and secondary education and providing training to education personnel in curriculum development and education research. It also collaborates with national universities and research centres to change and adapt educational content and to establish connections with regional and international education institutions to document and publish education research. The NCCER appoints and supervises committees to write textbooks and develop teacher guides and detailed schools programmes. It is also entrusted with the responsibility of preparing legislation for organizing examination at all levels of education and determining achievement levels by reviewing school examinations. The CPA of 2005 also includes provisions for the development of a national curriculum that takes into account the cultural diversities of Sudan. In 2008, UNICEF introduced a comprehensive life skills curriculum that was rapidly implemented across the country. It focuses on building self-confidence and dealing with conflict situations, HIV/AIDS and gender issues. In theory, participatory approaches to teaching are emphasized in the curriculum, such as activity-based, collaborative and child-to-child teaching methods, but they are seldom used by teachers in their classrooms.

Higher education

The MoHESR is in charge of policy development and service delivery for higher education. The results obtained in the Sudan School Certificate examination enable students to be admitted into five types of institutions: public universities, public technical colleges, private universities, philanthropic universities and private colleges. Whereas colleges provide diplomas, universities confer degrees. Once enrolled, students can obtain a bachelor's degree (offered in several fields) in four or five years, and then get a postgraduate diploma in one or two years. Master's degree programmes last two or three years and require some independent research and the submission of a thesis. Following a master's degree, a doctoral degree can be obtained in three years with the presentation of a final thesis. Doctorates are only available at the University of Khartoum in the fields of humanities, law and science.

Figure 5: Organization of general public education

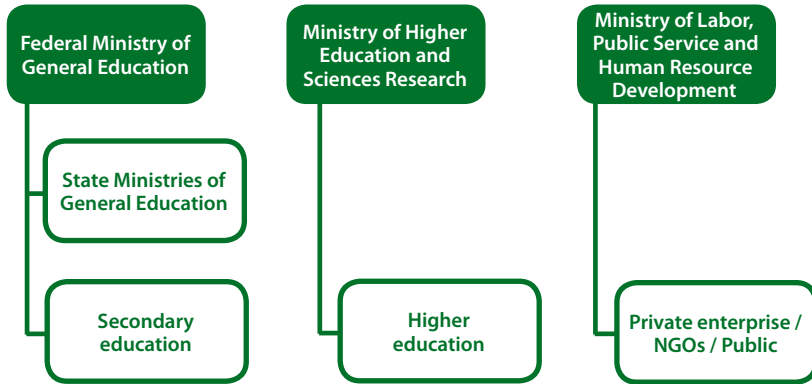


Source: Information collected by UNESCO in October 2016.

■ 2.3.2 Technical and vocational education

Three ministries are responsible for technical and vocational education. The FMOGE and SMOGEs offer courses in technical secondary education; the MoHESR provides degree courses in technical education at higher-education institutions; and the Ministry of Labour, Public Service and Human Resource Development (MoLPSHR) offers apprenticeships and vocational training programmes through private enterprises, NGOs and the public sector. In addition to this, the National Council for Technical and Technological Education was established in December 2005 to consolidate all programmes dealing with technical and vocational education and ensure curricula correspond to the needs of the labour market.

Figure 6: Organization of technical and vocational education at secondary and higher levels of education



Source: Information collected by UNESCO in October 2016.

Figure 7: Ministries providing technical and vocational education

FMoGE SMoGEGs	MoHESR	MoLPSHR
<ul style="list-style-type: none"> • 52 vocational schools • 115 technical schools (secondary level) 	<ul style="list-style-type: none"> • 19 public technical colleges (higher education institutions) 	<ul style="list-style-type: none"> • 5 types of apprenticeships and training programs

Source: World Bank, 2012.

Technical secondary education lasts three years and ends with the Sudan School Certificate. Technical and vocational schools offer technical secondary education in four main fields: agriculture, commerce, industry and home economics (for girls).

Vocational training centres offer two-year vocational courses to basic-education graduates in a variety of fields.

Professional diplomas are provided by technical colleges and some universities. The programmes generally last four to six semesters.

■ 2.3.3. Non-governmental and private education

Most Sudanese pupils are enrolled in government schools, especially in basic schools, technical secondary schools, and higher-education institutions; according to a 2007 baseline study, the government is the largest provider of basic education in Sudan. However, a significant share of students at the pre-primary and secondary levels are enrolled in non-government schools, which include fee-charging as well as not-for-profit institutions run by religious and community organizations and other NGOs. Overall private sector participation in education varies between 1% and 2.4% across the country, except in Khartoum state where it accounts for 28%, followed by South Darfur (6%), Red Sea (5%) and South Kordofan (4%) (IBE-UNESCO, 2012). In 2008, 39% of students were enrolled in public schools, 21% in private schools and 29% in Teachers' Union programmes. At the pre-school level, non-government schools, which include private and NGO-run schools as well as *khalwas* (traditional Islamic schools that teach the Quran), account for 38% of students (World Bank, 2012). At the secondary level, 24% of students are enrolled in non-government schools, including tutorial classes organized by the teachers' union.

Student enrolment in non-government schools also depends on place of residence. The proportion of students attending these types of schools is higher in some states, including Khartoum (13% of total basic-school enrolment), Red Sea (10%), Kassala (8%) and Southern Darfur (10%), where NGO-run schools within IDP camps are prevalent (World Bank, 2012).

Table 1: Share of private school enrolments (%) by state, 2009

	Pre-school	Basic	Secondary	Technical
Northern	–	1	18	0
Red Sea	–	10	22	0
River Nile	–	1	5	0
Khartoum	–	13	44	0
Al Jazirah	–	1	10	0
Blue Nile	–	0	16	0
Sinnar	–	1	7	–
White Nile	–	4	11	–

North Kordofan	–	3	9	0
South Kordofan	–	3	10	0
Northern Darfur	–	3	5	–
Southern Darfur	–	10	33	0
Western Darfur	–	2	39	0
Kassala	–	8	15	0

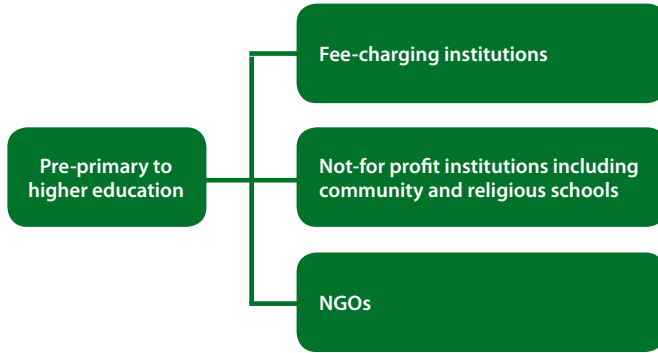
Source: World Bank, 2012.

Some schools have both private and public sections within the same school; this is mostly the case at the secondary level, where some students want to repeat their last year in order to improve their results on the Secondary School Certificate exam. Thus, the non-governmental sector meets these needs by offering private classes in public school buildings.

Generally, non-government schools are smaller than public schools, especially at the secondary level, where they can be half the size of government schools. Accordingly, the teacher–student ratio is lower in non-government schools, particularly at the pre-school level (except for *khalwas*).

Between 2000/01 and 2008/09, enrolments in non-government schools at the primary and secondary levels were growing faster than those in government schools. At the primary level, non-government schools showed an annual growth of 8%, which was 3% more than government schools. At the secondary level, enrolments in non-government schools grew by 7% per year, which was 1% more than government schools (World Bank, 2012). This evidence reveals a strong and growing demand for education that the government may have difficulty responding to.

Figure 8: Organization of non-government education



Source: Information collected by UNESCO in October 2016.

■ 2.3.4. Non-formal education

Literacy and adult education represent the largest subsector outside the framework of the formal system. However, enrolments vary widely from one year to another without showing a clear trend. A large share of women attend literacy programmes, with women and girls making up 76% of enrolments in literacy and adult education (World Bank, 2012).

Table 2: Trends in students enrolments in literacy and adult education, 2000/01 to 2008/09

Education level	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Average annual growth (%)
Literacy and Adult Education	388,910	106,885	157,326	215,802	180,411	422,576	288,256	301,903	181,465	-9

Source: World Bank, 2012.

The General Secretariat of the National Council for Literacy and Adult Education (NCLAE) is the official focal point in charge of literacy enhancement. In addition, literacy offices can be found in each locality.

Most of the teachers providing instruction in literacy programmes are national service and volunteer teachers, who represent 67% of total staff. Government teachers represent a smaller share, accounting for 27% of staff (World Bank, 2012).

Table 3: Number of education staff in literacy programmes, 2009

Education level	Total education staff on government payroll (a)+(b)+(c)	(a) Central and decentralized education staff	(b) Government non-teaching staff	(c) Government teachers	(d) National service and volunteer teachers	Total teachers (c) + (d)
Literacy Programmes	3,365	756	110	2,499	5,910	8,409

Source: World Bank, 2012.

Spending on literacy programmes represented 1% of total recurrent education spending in 2009, whereas teacher salary spending accounted for 62%, the lowest share among all other levels (World Bank, 2012).

■ 2.3.5 Nomadic education

During the 1990s, efforts were made to increase education for nomadic communities through the establishment of a mobile school system. Nomadic schools are small, mobile, multigrade schools for Grades 1–4 and collective schools for Grades 5–8. They are fairly spread out across the peripheral states. In 2008/09, there were more than 1,400 government nomadic schools present in all states except Al Jazirah and Khartoum. Nomadic schools represented almost one-third of basic schools in the State of Kassala and 15% to 20% of basic schools in the three Darfur states and the Red Sea. Nomadic school enrolments are typically small. With an average class size of 33 students and an average enrolment of 103 students, in 2008/09 these schools enrolled only about 147,000 children in total, or 3% of basic-school enrolments in Sudan. Enrolment in nomadic schools declined in 2008/09 (World Bank, 2012).

■ 2.3.6. IDP education

Unlike nomadic schools, IDP schools are typically large. In 2008/09, there were 261 government IDP schools, mainly located in the three Darfur states, with the exception of three located in Northern State. IDP schools have large enrolments with an average class size of 92 students and an average total enrolment of 815 students. In 2008/09, these schools enrolled as many as 213,000 students, or 4% of total basic-

school enrolment. This enrolment is quite small given that there are around 2.7 million IDPs in the Darfur states, almost 700,000 (25.7%) of whom are between the ages of 6 and 13 (World Bank, 2012). However, many IDP children could be enrolled in regular schools, so it is not possible to determine the exact share of IDP children who have access to basic schooling.

■ 2.3.7. Village education

Village schools are small, multigrade, rural schools located mainly in the Kordofan states. They account for more than 10% of schools in North and South Kordofan. As with nomadic schools, the average enrolment in village schools is small. With an average size of 30 students per class and 97 students per school, these schools enrolled 33,000 students in 2008/09. Village schools offer only the first grades of the basic-education cycle up to Grade 4 in North Kordofan, where they account for 3% of basic-education enrolment, and up to Grade 5 in South Kordofan, where they account for 6% of basic-education enrolment.

■ 2.3.8. Supplementary education

Other kinds of education are provided, such as adolescents' education, special education and Islamic education. In 2008/09, it was reported that 1,450 students attended Islamic secondary education, about 14,000 were enrolled in adolescents' education and some 40,000 attended special education. These figures represent a small number of students, highlighting the minor importance of these types of schooling (World Bank, 2012).

2.4. Education system

Population displacement, conflict and a lack of technical and financial resources have made data collection a serious challenge in Sudan. However, efforts to improve the capacity of information systems during the past decade have been quite successful. Between 2006 and 2015, the overall level of Sudan's statistical capacity increased from 3.33 to 51.1 (World Bank, 2017). In the area of education, the EMIS introduced in December 2010 has become the primary source of administrative data for the FMoGE. The EMIS project, which commenced in September 2008 with financial and technical support from the European Union and UNICEF respectively, has played a critical role in capturing national educational output and input data but still needs to be upgraded and improved.

■ 2.4.1. Access

Since 2000/01, demand for education at all levels has rapidly increased. This rapid growth has been particularly notable at the pre-school and higher-education levels, with 10% and 7% growth per year respectively, leaving basic education with the lowest relative growth at 5% per year (World Bank, 2012). However, basic education is the level that experienced the largest absolute increase in enrolments for the same period of time: almost 1.6 million of students enrolled in basic education in 8 years.

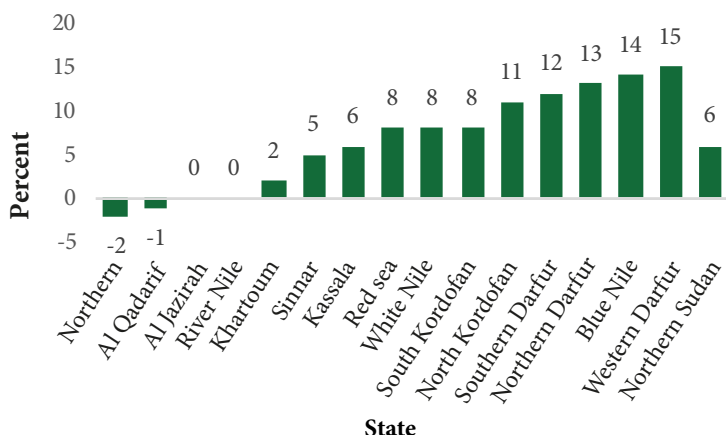
Pre-primary education

Since 2009, the GER for pre-school has been quite stable despite some light variations, reaching 34.27% in 2013 (UIS, 2017).

Primary education

Thanks to the signing of the CPA and the Constitution of 2005 stipulating that basic education should be free, enrolment growth accelerated after 2005 by almost a million students between 2004/05 and 2008/09 (World Bank, 2012).

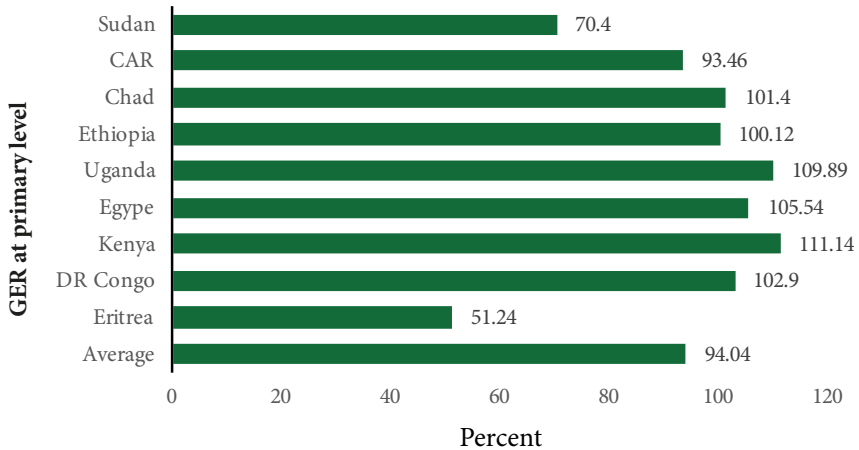
Figure 9: Average growth rates for basic-school enrolments, by state, 2004/05 to 2008/09



Source: World Bank, 2012.

In 2013, the GER at the primary level reached 70.4%. However, Sudan still lags behind most of its neighbouring countries in terms of universal primary schooling.

Figure 10: GER at primary level in Sudan and neighbouring countries



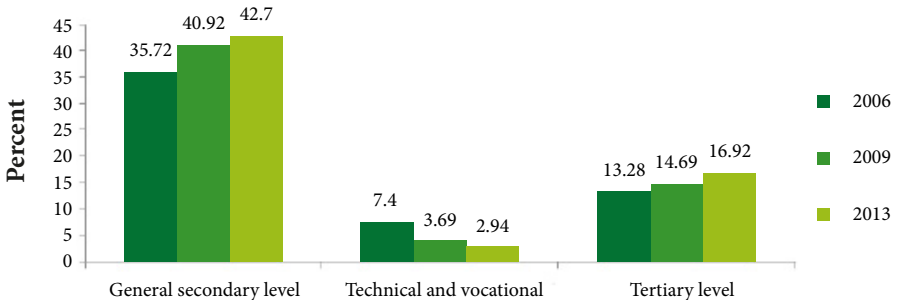
Source: UIS, 2017.

Moreover, 15% of primary schoolchildren are at risk of **dropping out** before the final grade of primary school (UNICEF, 2014). Indeed, the retention rate in the last grade of primary education has not increased much since it rose from 75.82% in 2009 to 79.43% in 2012. School life expectancy followed a similar pattern, increasing slightly by 0.24 years over the course of six years (from 3.98 years in 2006 to 4.22 years in 2013) (UIS, 2017).

Secondary and higher education

Primary-school drop-out rates are partially to blame for the significant decrease in GER at the secondary level. Enrolment in secondary education is low and has shown only a slight increase, from 40.92% in 2009 to 42.7% in 2013 (UIS, 2017). At the same time, enrolments in technical and vocational education at the secondary level have remained very low and even decreased by 4.46% between 2006 and 2013. Despite a slight increase, the tertiary level also had a low GER during the same time period.

Figure 11: Evolution of GER at secondary and tertiary levels



Source: UIS, 2017.

Nomadic, IDP and village schools

During the 2008/09 school year, more than 12% of all basic schools operating in Sudan were either nomadic, IDP or village schools. As previously mentioned, village schools are rural multigrade schools that usually only offer the first four grades of the basic-education cycle and specifically serve nomadic and internally displaced children (FMoGE, 2008). In 2008/09, nomadic schools accounted for 8.7%, IDP schools for 1.6% and village schools for 2.1% of all basic education (World Bank, 2012). The 2008 FMoGE statistical yearbook reported that these schools accounted for 8% of total enrolments in basic education, although this figure may have been underestimated. In 2010, enrolment in nomadic schools reached 359,427 pupils from a total of 612,992 school-age children, representing 58.6% of eligible children (FMoGE, 2017).

2.4.2. Equity

This subsection investigates three types of disparities in the provision of education within the country. It first looks into the **regional** disparities, then examines **gender** differences and finally turns to **social** discrepancies. When relevant and possible, these three kinds of disparities are discussed together to offer a full picture of the national context regarding equity in education.

Regional

As previously explained, general education is managed by the states. Thus, the analysis of regional disparities will examine the disparities between all the states of the country at the pre-school, basic and secondary levels.

There are large disparities in the GER at all levels of education. As could be expected, there is a strong link between the GER and the economic development of a state. Thus, states with a high level of economic development (Khartoum, River Nile, Al Jazirah, Northern and White Nile) show high GERs. On the contrary, states that suffer from conflicts (Northern Darfur, Red Sea, Blue Nile, Southern Darfur and Kassala) present the lowest GERs.

It is noteworthy that data on state comparison are not available after 2006. Moreover, for some data there are considerable discrepancies between the two sources used (yearbook data from FMoGE and the 2006 Sudan Household Health Survey). For Kassala, Red Sea and Southern Darfur, the discrepancy between the two sources was so large that it was impossible to reconcile the figures. For this reason, some figures are missing for these states in the following table, even though they are among the states with the lowest enrolment rates.

Table 4: Comparison of GERs in pre-school, basic and secondary schools by state, 2008/09

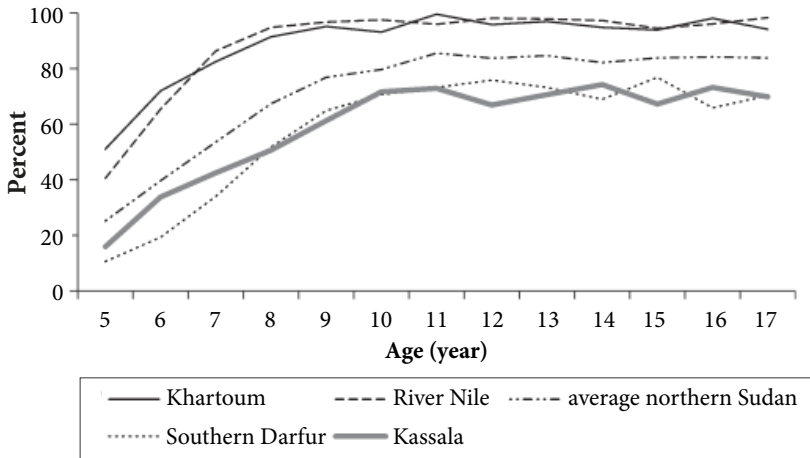
Enrolment level	Pre-school		Basic		Secondary (academic and technical)	
	Gross enrolment rate	Average annual percentage point change since 2005/06	Gross enrolment rate	Average annual percentage point change since 2005/06	Gross enrolment rate	Average annual percentage point change since 2005/06
<i>High</i>						
Khartoum	43	1	94	5	61	7
River Nile	65	6	89	-1	7	1
Al Jazirah	44	3	90	0	57	3
Northern	64	4	85	-3	50	2
White Nile	43	5	85	5	37	1
5-state average	52	4	89	1	50	3

Medium						
South Kordofan	52	9	82	2	32	3
Western Darfur	26	5	88	2	25	3
Sinnar	13	0	80	3	31	1
North Kordofan	23	–	78	4	23	0
Al Qadarif	36	6	70	3	31	1
5-state average	30	5	80	3	28	2
Low						
Northern Darfur	32	4	67	4	21	-2
Red Sea	64	–	–	1	17	-1
Blue Nile	20	0	65	4	20	1
Southern Darfur	38	8	–	1	17	-1
Kassala	17	0	–	-2	15	0
5-state average	34	3	66	2	18	0
15-state average	37	4	72	2	34	2

Source: World Bank, 2012.

The 2006 Household Survey also provides the cohort access rate for selected states. Thus, four states can be compared: two (Khartoum and River Nile) are at the top of the list in the previous table, and two others (Southern Darfur and Kassala) at the very end. In Khartoum and River Nile, 95–99% of children access school at some point in their lives; only 70% do so in Southern Darfur and Kassala. However, it should be noted that despite the high GER and cohort access rate in Khartoum and River Nile, only 10–20% of children there enter school at the official school age (6 years old).

Figure 12: Regional disparities in the share of children aged 5–17 who have ever accessed basic school, 2005/06



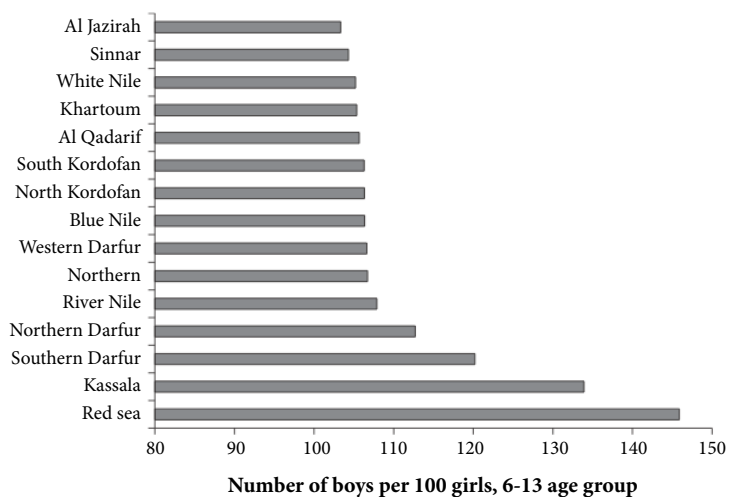
Source: World Bank, 2012.

Gender

This section looks at the effects of gender on school enrolment. Between 2008 and 2013, there was a slight increase in the share of girls accessing all levels of education. However, at the primary- and secondary-education levels, there were and still are fewer girls than boys. In contrast, the female GER at the pre-school and higher-education levels has always been and is still higher than the male GER.

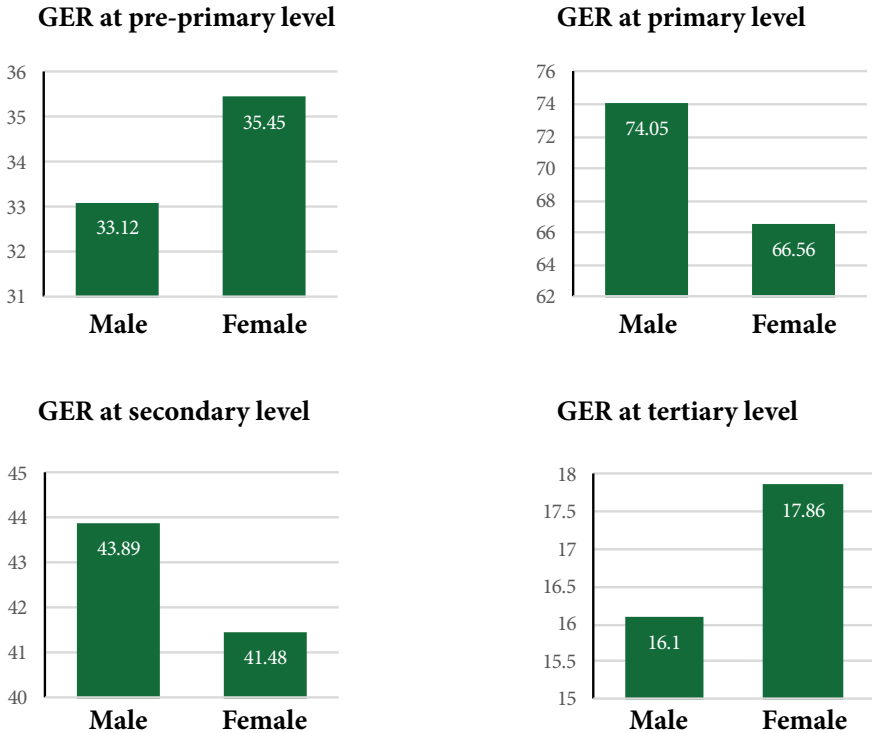
Once enrolled, girls have a good survival rate, of 79.10% at primary level and 97.51% at secondary level in 2012, the latest year for which data are available (UIS, 2017). The high retention rate for girls in the education system may be explained by strong incentives for them to stay in school to delay marriage and entrance into an uncertain labour market. Boys may have better opportunities in the labour market and therefore fewer incentives to stay in school.

Figure 13: Ratio of boys to girls in the basic school-age population, by state, 2008



Source: World Bank, 2012.

Figure 14: GER at all education levels, male versus female, 2013



Source: UIS, 2017.

Whereas the female GER reached 66.47% in 2009 (UIS, 2017) in basic government schools, the share of girls in other government schools, including nomadic, IDP and village schools, as well as in non-government schools, did not exceed 47% (World Bank, 2012). This suggests that girls are at a greater disadvantage among marginalized or vulnerable population groups than in the population as a whole.

Table 5: Share of girls in enrolments by type of basic school, 2008/09

Academic year	Government school				Non-government school
	Nomadic	IDP	Village	Other	
2008/09	38	44	41	47	44

Source: World Bank, 2012.

More adult women than men attend literacy education. Indeed, women and girls account for 76% of enrolments in literacy classes and adult education (World Bank, 2012). This can be attributed to the lower rates of schooling for girls in past generations, resulting in lower literacy rates for women and a greater need for catch-up education.

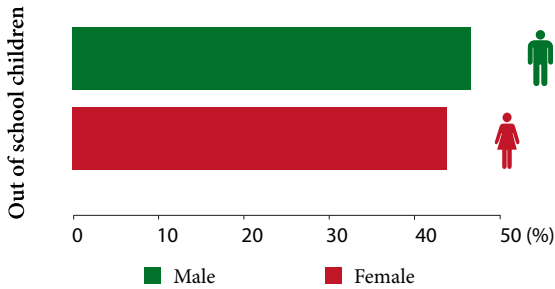
Figure 15: Literacy rates among the population 15 years and older, 2000–2015



Source: UIS, 2017.

While females seem disadvantaged in terms of access to schooling, the number of out-of-school males has recently slightly outpaced the figures for their female counterparts. Indeed, in 2012, out of 2,712,568 million out-of-school children, 1,298,832 were female and 1,413,736 were male (UIS, 2017).

Figure 16: Rate of out-of-school children of primary age, 2012



Source: UIS, 2017.

Despite this recent improvement in the number of out-of-school female children, girls still lag behind, and some of them may be even more disadvantaged in terms of access to education when other indicators, such as location and income, are taken into account.

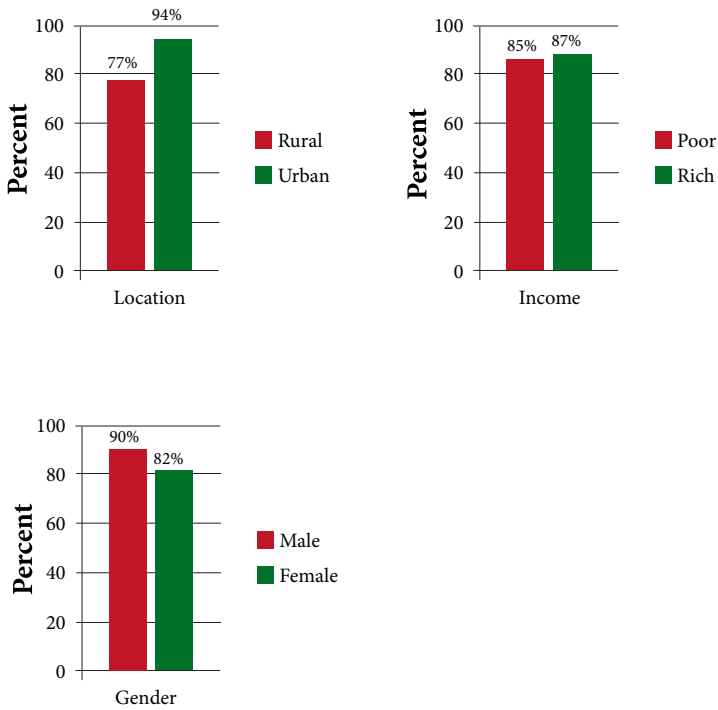
Social

This subsection addresses social disparities in the rates of school participation across several dimensions: location (rural versus urban children), income (rich versus poor families), and gender, which was previously analysed. Since the availability of data is limited in terms of time period as well as groups that could be assessed, this section does not look at vulnerable groups (IDPs, nomadic children and orphans), and the statistical analysis deriving from the data does not go beyond 2006.

When location, income and gender are compared, location turns out to be the best predictor of a child's chance to ever enter school. Urban children are 17% more likely than rural children to access school. The number of out-of-school children is much higher in rural than in urban areas, and accordingly, the share of children who never access school is also much larger in rural than in urban areas.

Overall, boys are 8% more likely than girls to access school, and rich children are 2% more likely than poor children to access school.

Figure 17: Probability of ever enrolling in basic school (Grade 1) according to location, income and gender, 2005



Source: World Bank, 2012.

When all the possible combinations are put together, it appears that there are compounding effects from gender and rurality; that is, the rural girl is the most disadvantaged of all. Income also plays a role: a rural girl from a poor family is 25% less likely to ever access basic school than an urban boy from a rich family (World Bank, 2012).

Table 6: Access: interaction of gender with poverty and rurality, 2005

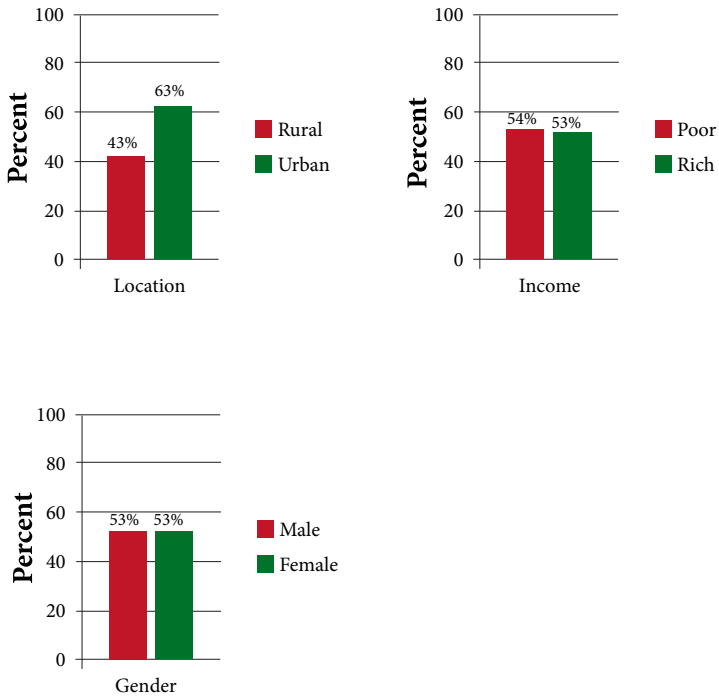
Indicator	Rich		Poor	
	Urban	Rural	Urban	Rural
Boy (percent)	96	84	95	82
Girl (percent)	92	72	91	70
Gap (percentage points)	4	11	4	12

Source: World Bank, 2012

A study conducted by UNICEF jointly with the Sudanese Government in 2008 tried to identify the reasons why girls are discouraged from going to school in rural areas. The study shows that safety concerns are one of the main reasons why parents refrain from sending their daughters to school (World Bank, 2012). Longer distances to and from schools in rural areas as well as the school environment itself appear to be obstacles to girls' education and can be part of the explanation for girls' low access to school in these areas.

Location is also the best predictor for retention once children are enrolled in school. Indeed, children in rural areas are 20% less likely than urban children to still be enrolled in school by Grade 8 (World Bank, 2012). However, in 2005, even for urban children retention rates were low and did not exceed 63%. The two other indicators, gender and income, do not seem to have a real impact on the retention of children in school. Boys and girls from rich and poor families have similar retention rates once enrolled. Thus, the difference between boys' and girls' participation in basic education is only related to access to Grade 1 (not retention once in school), and this result applies to both urban and rural children.

Figure 18: Probability of still being in school by Grade 8, by location, income and gender, 2005



Source: World Bank, 2012.

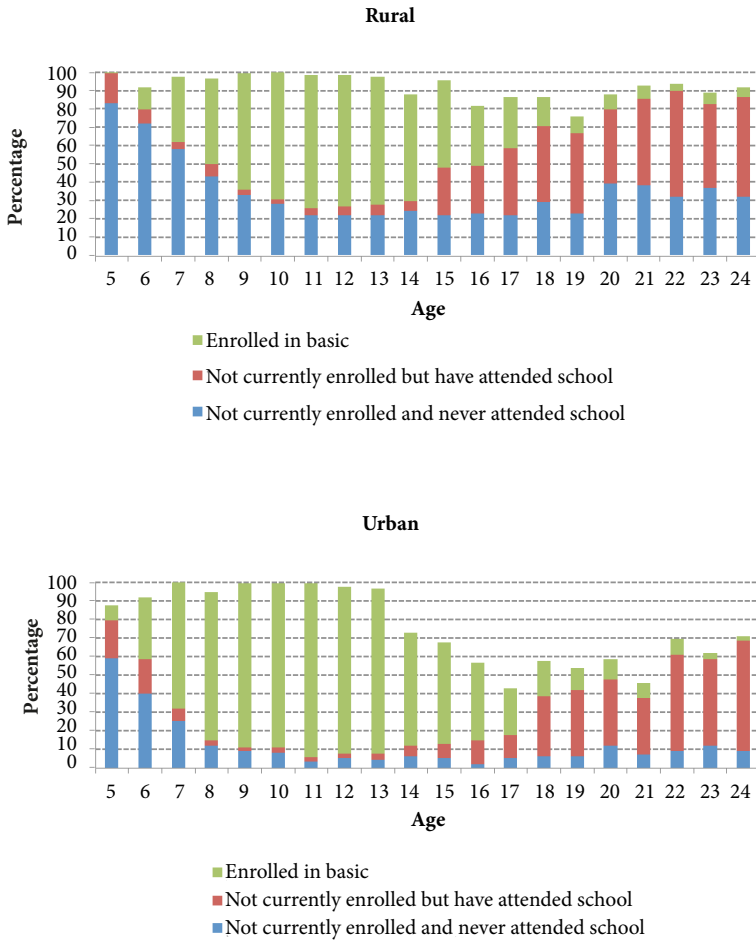
Table 7: Retention: interaction of gender with poverty and rurality, 2005

Indicator	Rich		Poor	
	Urban	Rural	Urban	Rural
Boy (percent)	63	44	64	45
Girl (percent)	62	43	64	44
Gap (percentage points)	1	1	0	1

Source: World Bank, 2012.

To conclude, the main problem in urban areas is access to education, whereas the main problem in rural areas is both access and retention. Ways to improve education provision as well as increase demand for education could be investigated further in order to better understand the reasons for these low access and retention rates in rural areas and how to address them.

Figure 19: Schooling status of urban and rural children by age, 2005/06



Source: World Bank, 2012.

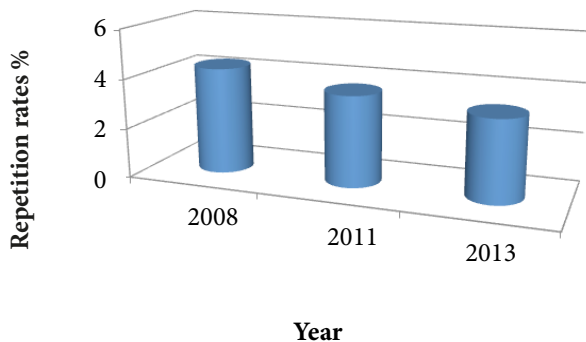
■ 2.4.3. Efficiency

The internal efficiency of the education system is generally assessed by studying the dynamics of student flows and measuring drop-outs and repetitions as well as transition rates. Such analysis of efficiency has the benefit of drawing attention to possible challenges or dysfunctions at particular levels of the system.

Repetitions

All relevant sources confirm that repetition rates at the primary level are relatively low. In 2008/09, the FMoGE's data showed that the share of repeaters was between 4% and 7%. Both the 2008 Baseline Survey on Basic Education as well as the 2006 Sudan Health Household Survey confirm these figures, indicating 7% and 4% of repeaters respectively (World Bank, 2012). The rate of repetition has been constantly decreasing since then, and repeaters only represented 3.29% of enrolled students in 2013 (UIS, 2017). The statistical yearbook confirms this information and indicates that in 2013, average repetition rates were 3.1% for girls and 3.5% for boys, with considerable variations between states – ranging from as low as 1.3% for girls in Khartoum to 12.7% for boys in Al Qadarif (FMoGE, 2013).

Figure 20: Repetition rates at primary level, 2008 to 2013



Source: UIS, 2017.

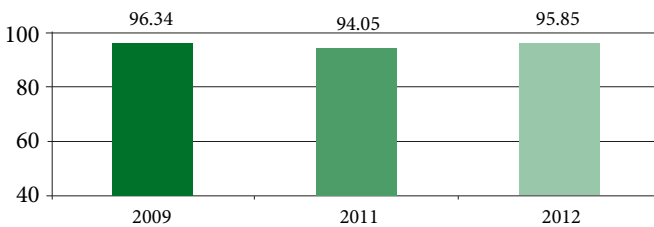
At the secondary level, however, data differ from the sources used. The FMoGE yearbook, which only reports secondary-school enrolment by grade, suggests that, due to the structure of enrolments by grade, the repetition rate is high, particularly in the last year of secondary education. Data also show that repetition is common in non-government schools, including Teachers' Union classes. Still, according to the FMoGE yearbook, it can be estimated that in 2008/09, the total level of repetition was 15% across the three-year cycle of primary education (World Bank, 2012). In

contrast, data from the UNESCO Institute for Statistics (UIS) indicate that the share of repeaters at the lower secondary level¹ is low and has not exceeded 3% since 2010 (UIS, 2017). Repetitions in technical secondary education appear to be low as well.

Retention, drop-out and transition

In 2008/09, it was calculated that 57 students out of every 100 who enrolled in Grade 1 of basic education were still in school by Grade 8, which is equivalent to a primary level retention rate of 57% (World Bank, 2012). Thus, the probability of dropping out before Grade 8 was about 43%, indicating a drop-out rate of 6% per grade for Grades 1–7. The statistical yearbook indicates that drop-out rates were lower in basic education in 2012/13, at 1.9% for girls and 2.2% for boys, with considerable variations between states, ranging from 0.4% overall in Khartoum State to 15.1% overall in South Kordofan (FMoGE, 2013). During the same period, about 26% of those who enrolled in the first year of secondary school dropped out before reaching the final year, corresponding to a drop-out rate of 13% per year in the first two years of the secondary cycle. These figures suggest that retention and drop-out are a serious issue at both the primary and secondary levels. Officially, the primary to secondary transition rate has been quite stable since 2009 and has never fallen below 94%. However, according to the latest Sudan Education Sector Analysis (SESA), the transition rate to secondary level has been constantly declining since 2009, to 73.8% in 2011/12 and 64.1% in 2014/15 (FMoGE, 2017).

Figure 21: Primary to secondary transition rates, 2009–12



Source: UIS, 2017.

Graduation

In 2008, there were 363,000 candidates from general, vocational and religious secondary schools sitting the Secondary School Certificate examination. This represented an increase from 2004, when 260,000 candidates took the exam (World

¹ In Sudan, the category of lower secondary does not exist any longer following the nationwide education reform in 2012. Basic education lasts eight years followed by the secondary level of three years. Hence, the lower secondary level (ISCED level 2 defined by UNESCO/UIS) is now part of basic education.

Bank, 2012). In 2008, 39% of the students came from public schools, 21% from private schools and 29% from Teachers' Union programmes; the remaining 11% were 'informal' candidates. It was noted that girls generally performed better than boys, with almost 74% of them passing, compared with 69% of boys. The average national pass rate was 74–75% for students from public and private schools and for informal candidates. The pass rate for Teachers' Union programmes reached 65%, a pattern that has remained stable since 2004.

Table 8: Pass rates for secondary-school examinations in northern Sudan, by school type and state, 2008

State	School type			
	Public	Private	Teachers' Union	Informal
Blue Nile	56	75	59	60
Al Qadarif	73	76	69	78
Al Jazirah	76	80	74	87
Kassala	84	64	52	79
Khartoum	84	75	62	69
Northern Darfur	59	83	63	67
North Kordofan	71	76	49	67
Northern	93	75	66	72
Red Sea	62	81	60	66
River Nile	92	84	63	75
Sinnar	76	73	69	81
Southern Darfur	55	62	67	70
South Kordofan	50	63	57	67
Western Darfur	53	65	60	56
White Nile	74	81	65	76
Average	70	74	62	71
Number of candidates	127,459	70,008	102,578	33,183

Source: World Bank, 2012.

In most states, when pass rates for students from public schools are low (below average), pass rates for private school students are relatively high. In contrast, when public pass rates are high, private school pass rates tend to be lower. This pattern suggests that private schools tend to meet the demand for an education that will enable students to pass the Secondary School Certificate examination when public schools fail to do so.

■ 2.4.4. External effectiveness

Measuring the external effectiveness of an education system involves evaluating the quality of output from the point of view of the society or the economy that absorbs those who leave the system.

Sudan's high population growth rate has resulted in a relatively young population and a high proportion of youth in the working age group at a time when fewer jobs are being created. Also, the youth tend to be more geographically mobile than other age groups in the population; their urbanization rate was 40.5% in 2008 compared to 31.4% for adults (AfDB, 2012). Labour migration and population displacement are the main reasons for this high youth urbanization rate.

While employment opportunities for youth are concentrated in agriculture (42%), public services (19%) and trade (19%), most university students are enrolled in humanities programmes (62%). In addition to this, a lack of basic knowledge and relevant skills is noted among graduates of both secondary and tertiary education. This mismatch between tertiary-education outcomes and the skills that employers require has led to growing unemployment among tertiary-school graduates. Consequently, many graduates work in jobs requiring lower qualifications, and secondary- and tertiary-education graduates, respectively, accounted for 49% and 28.7% of unemployed youth in 2008 (AfDB, 2012). In a Ministry of Labour survey, 21% of private employers in Khartoum's formal sector reported preferring foreign workers due to their efficiency and skills. Due to declining jobs in the formal sector and the absence of unemployment insurance, many of the unemployed end up in the informal sector, where productivity and wages are very low. The informal sector accounts for 60% of national income but over 90% of income and employment in rural areas.

Many social factors related to gender stereotypes constrain young women's participation in the work force in Sudan. According to 2009 data, participation and unemployment rates for females aged between 15 and 25 years were 9.5% and 26% respectively, whereas the corresponding rates for young males were 23% and 74% (AfDB, 2012).

Table 9: Educational profile of the unemployed by rural/urban area and gender, 2011

	Illiterate	Primary/basic	Secondary	Tertiary	Total
Total					
Urban	2.6	11.9	13.6	16.5	44.6
Rural	18.8	21.1	8.7	6.8	55.4
Total	21.4	33.0	22.3	23.3	100.0
Men					
Urban	2.2	13.1	12.3	13.4	41.0
Rural	16.8	26.2	9.2	6.8	59.0
Total	19.0	39.3	21.5	20.2	100.0
Women					
Urban	3.1	10.5	15.0	19.9	48.4
Rural	21.0	15.5	8.2	6.8	51.6
Total	24.1	26.0	23.2	26.7	100.0 (%)

Source: ILO, 2014.

Table 10: Distribution of employment (15 years old and above) in the informal sector by main economic activity and age group, 2011

	Age groups			
Main economic activity	15-24	25-54	55-64	65 +
Agriculture, forestry and fishing	26.26	60.84	7.63	5.27
Mining and quarrying	34.90	59.67	5.42	0.00
Manufacturing	16.85	65.72	9.55	7.89
Construction	23.94	65.91	6.38	3.77
Wholesale and retail trade; repair of vehicles	12.37	70.40	10.05	7.18
Transportation and storage	16.41	73.83	7.12	2.64
Other activities	17.47	61.28	15.83	5.42
All	20.01	66.96	8.20	4.83

Source: ILO, 2014.

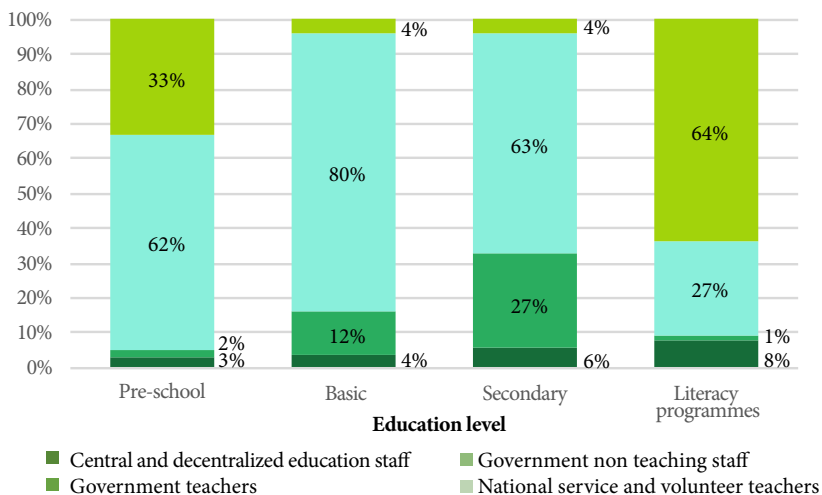
■ 2.4.5. Quality and relevance

There has been a growing interest in assessing the quality of educational output in the last decades. Quality is generally measured through national examinations or standardized assessment techniques in terms of the knowledge or competencies students have acquired according to the level of schooling attained. However, trying to improve the value of educational output requires reviewing the quality of the system's input, which includes teachers, curriculum, school infrastructure and materials.

Teachers

A strong correlation has been proven between teacher performance and student learning outcomes. In 2009, there were 216,824 education staff on the government's payroll and 17,458 national service or volunteer teachers (World Bank, 2012). The composition of education staff varies across education levels. For instance, volunteer teachers account for 64% of all staff in literacy programmes, while 80% of basic-education teachers are government teachers.

Figure 22: Types of staff by education level, 2009



Source: World Bank, 2012.

Prior to 1993, the pre-service qualification for basic-education teachers was a two-year diploma course offered by a network of In-Service Education Training Institutes (ISETIs). Teachers attended the institute one day per week and taught in schools for the remainder of the week. Funding for the ISETIs ceased in 1993, and as part of the education sector reform, teacher qualification was revised to a four-year Bachelor of Education (B.Ed.) degree offered by faculties of education in universities. These

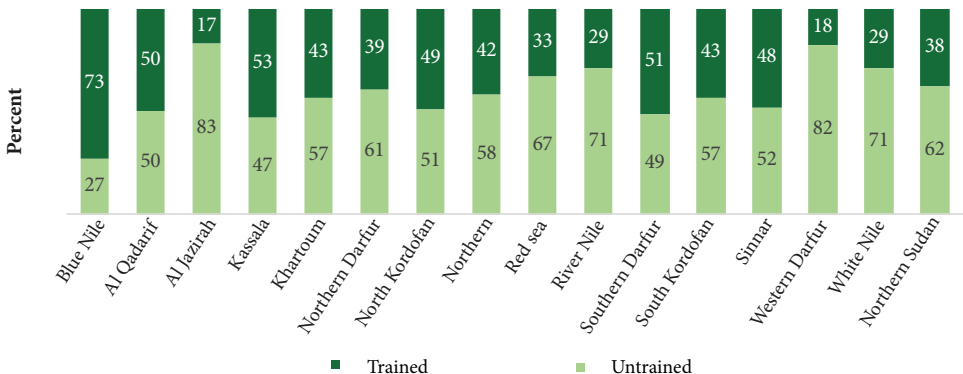
faculties are in charge of developing the content of the training programme and the accreditation process for teachers in secondary schools. Responsibility for pre-service teacher training was also transferred from the FMoGE to the MoHESR.

Nevertheless, in 2008 UNICEF estimated that a low number of students enrolled in and even fewer successfully graduated from B.Ed. programmes (World Bank, 2012). This was primarily due to the relatively high cost (both fees and opportunity costs) imposed on students and the fact that teachers were still hired regardless of whether they had a B.Ed. degree.

In 2003, Sudan Open University (SOU) introduced a partial B.Ed. degree course for in-service teachers with no B.Ed., and a one-year diploma in education for graduates of other disciplines. By 2004, the FMoGE stopped funding teachers through faculties of education and funded them solely through SOU. Only 12% of the estimated 140,000 basic-education teachers hold the required qualification of a four-year university degree (World Bank, 2012). Around 50% of basic-education teachers are considered untrained. Similarly, 50% of the estimated 34,000 secondary-school teachers are not trained (UNESCO, 2008). The highest percentage of untrained teachers are found in Blue Nile (73%) and in Al Qadarif, Kassala and Southern Darfur (50%). According to the latest SESA, 33.6% of basic and 30.3% of secondary teachers were untrained in the 2013/14 academic year (FMoGE, 2017).

According to a service delivery survey conducted in three states (Kassala, North Kordofan and River Nile), the most common teacher qualifications range as follows: 7–38% have completed secondary education, 11–26% have a Bachelor of Arts (B.A.) or Bachelor of Science (B.Sc.) degree, and 9–37% have a B.A. or B.Sc. degree and a B.Ed. degree (World Bank, 2012). The same baseline survey also found that there were more untrained teachers in nomadic and IDP schools than in any other type of school: 63.9% and 62.1% respectively.

Figure 23: Percentage of trained and untrained teachers in northern Sudan, by state, 2009



Source: World Bank, 2012.

As noted in an IBE-UNESCO (2012) report, “teacher education curriculum includes academic courses, professional training in educational and development psychology, teaching methods and lessons planning, and practical training. New subjects have been introduced such as population, health and environmental education” (p. 17). The report also cites a 2009 World Bank study that found that “the curriculum followed in the pre-service degree programme was strong on theory and content, but weak at providing practical teaching skills for instruction in primary schools.”

In Sudan, teachers are supervised by head teachers, education councils and local or state inspectors. State inspectors are former teachers, often approaching retirement age, who are attached to state or local education units. Inspectors supervise the work of regular teachers, whereas volunteer or national service and part-time teachers are generally supervised by the education councils, which use different standards. Regular teachers are supposed to be monitored two to four times per year. However, it is not clear what role education council supervision plays in terms of teacher promotions, transfers and training.

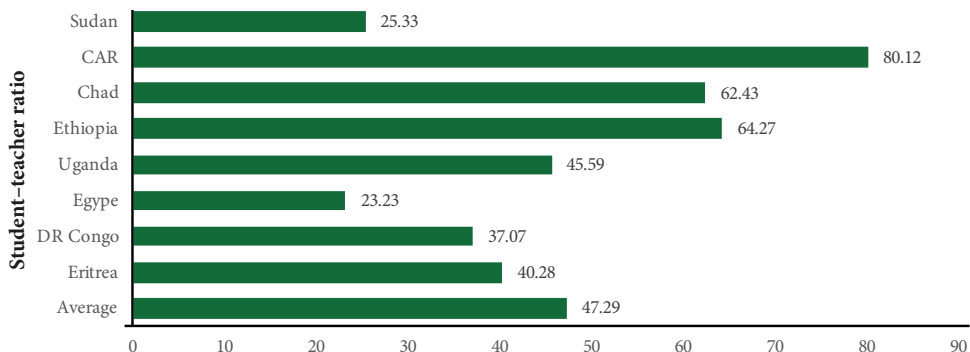
The average annual salary for government teachers in 2009 was 5,300 Sudanese pounds (SDG) (US\$869) for pre-school, SDG 6,700 (US\$1,099) for basic education and SDG 8,200 (US\$1,344) for secondary school. Compensation for part-time and volunteer teachers is much less consistent, probably due to the fact that regular teachers receive their salaries from the government whereas volunteers and part-time teachers generally rely on communities for their compensation. Between 6% and 20% of regular teachers in a 2009 survey were found to have outside jobs or to provide private tutoring to students, which indicates a need for supplementary income (World Bank, 2012). There are no government-sponsored financial incentives for teachers to work in remote areas or IDP and nomadic schools.

Student–teacher ratios

At the pre-school level, enrolments have outpaced the rapid expansion in the number of school buildings, resulting in a high student–teacher ratio. The ratio decreased from 31.6:1 in 2008/09 to 23.3:1 in 2010/11, but by 2012/13 it had risen again to 32.4:1 (UIS, 2017). At the basic-education level, while both enrolment rates and the number of schools have increased since 2005/06, the number of teachers was decreasing until 2009. Previously, the student–teacher ratio had stood at 33:1; it then fell to 25.33:1 in 2013. At the secondary level, following an increase in the number of general secondary schools, the student–teacher ratio dropped from 19:1 in 2005/06 to 17:1 in 2008/09 (World Bank, 2012). However, the ratio showed an upward trend and reached 36.95:1 in 2013 (UIS, 2017). For technical secondary schools, the number of schools and teachers have expanded greatly, but available statistics show that student enrolments have remained flat. These contradictory trends suggest that

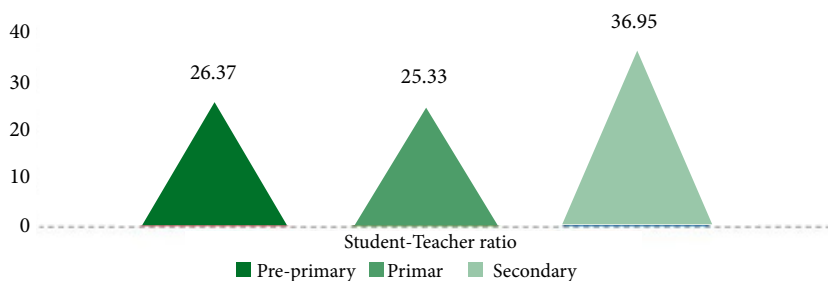
data on technical secondary education may be incomplete. Overall, student–teacher ratios are low compared with the average in Sudan’s neighbouring countries.

Figure 24: Student–teacher ratio at primary level, 2013



Source: UIS, 2017.

Figure 25: Student–teacher ratio at pre-primary, primary and secondary levels, 2013



Source: UIS, 2017.

Generally, class sizes tend to be smaller in rural areas than in urban areas because of the lower population density in rural zones.

School infrastructure and materials

The 2008 baseline survey (FMoGE, 2008) indicates that even though most schools have toilets, a large share of these toilets are either temporary or need to be repaired. On the supply side, school and classroom resources such as textbooks, chalkboards, desks and teachers are necessary but not sufficient for student learning. A study

conducted in 2008 based on visits to seventy-one government basic schools in seven states documents significant differences in textbook availability across states and urban and rural areas (EU, 2008). In 2012, at the primary level there were three pupils per mathematics and reading textbook (UIS, 2017), whereas the official policy on the student–textbook ratio is 2:1 (FMoGE, 2008). However, between 90% and 99% of pupils have pens, pencils and notebooks. A chalkboard remains one of the most important tools for teaching in northern Sudan,² especially given the lack of textbooks. Generally, urban classrooms are provided with better materials, including usable chalkboards, compared with peri-urban and rural classrooms. Similarly, in 2012 the share of students with a desk was lower in rural and peri-urban schools. While 73% of students had a desk in urban schools, only 17–38% had one in rural and peri-urban schools.

Table 11: Availability of chalkboards and desks in observed classrooms, 2009

State / Location	Classrooms with chalkboard	Chalkboard in usable condition	Students with desk
Kassala			
Urban	100	91	83
Rural / peri-urban	89	83	73
North Kordofan			
Urban	97	79	34
Rural / peri-urban	94	78	17
River Nile			
Urban	100	84	64
Rural / peri-urban	98	77	38

Source: World Bank, 2012.

■ 2.4.6. Education financing

As previously explained, the provision of pre-school, basic and secondary education is decentralized to the states, while the federal government is responsible for higher

² Before secession in 2011. The terms ‘northern’ or ‘southern’ are often used in the document to better indicate geographical locations.

education. Consequently, states receive transfers from the federal government that are designed to correspond to resources for education needs across states. Because of a strong dependence on federal transfers as well as the impact of federal policies on salaries and teacher employment, the fiscal autonomy of the states is limited.

The gradual increase of public spending on education since 2000 has been reflecting the government's willingness to improve education in the country. Indeed, from 2000 to 2009 (after 2009 no data are available), total education spending almost quadrupled, from SDG 660 million to SDG 2.4 billion, equivalent to 15.5% average annual real growth (World Bank, 2012).

Table 12: Estimated total public education spending, 2000–2009

Year	2000	2002	2004	2005	2006	2007	2008	2009
Nominal education spending (current SDG millions)	319	556	902	1,010	1,527	1,966	2,509	2,714
Recurrent	317	466	846	941	1,446	1,845	2,288	2,469
Development	2	90	56	69	80	121	221	245
Real education spending (constant 2008 SDG millions)	660	1,037	1,335	1,332	1,892	2,276	2,509	2,404
Recurrent	656	869	1,252	1,241	1,792	2,136	2,288	2,187
Development	4	168	83	91	100	140	221	217
Education spending as % of total public spending	8.1	9.2	7.1	7.3	10.2	11.2	13.2	12.0
Education spending as a % of GDP	1.3	1.8	2.0	1.9	2.4	2.7	2.7	2.7

Source: World Bank, 2012.

According to the latest SESA in 2017, education spending represents 11.3% of GDP and 1.3% of total public spending.

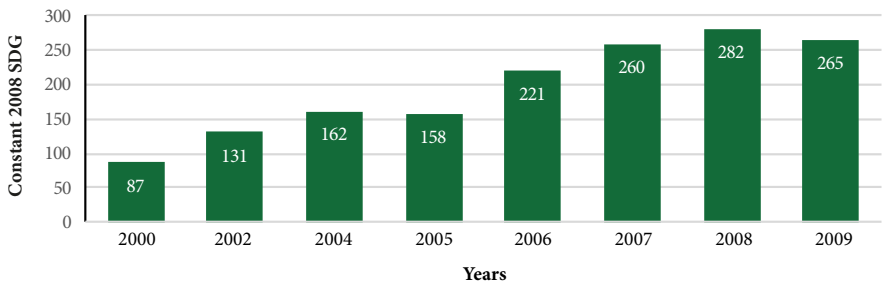
Table 13: Total public education spending, 2012–2015

Year	2012	2013	2014	2015
Education spending as a % of total public spending	1.3	1.2	1.2	1.3
Education spending as a % of GDP	11.3	11	11.3	11.3

Source: FMOGE, 2017.

At the same time, spending per school-age child grew by approximately 13%.³ Even though the number of school-age children grew by roughly 1.7% annually between 2000 and 2009, enrolment grew even faster (3.7%) as a result of the sustained increase in education spending over this period. However, between 2008 and 2009, there was a slight decline in public per-student spending, probably due to the downward pressure on overall public spending applied by the global financial crisis.

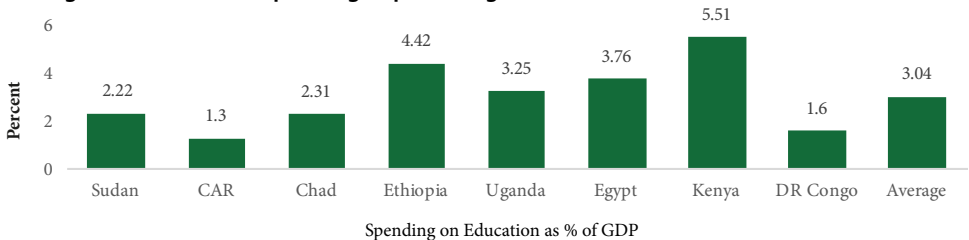
Figure 26: Recurrent public education spending per school-age child, 2000–2009



Source: World Bank, 2012.

Despite this increase since 2000, Sudan’s education expenditures have remained low compared to its neighbouring countries.

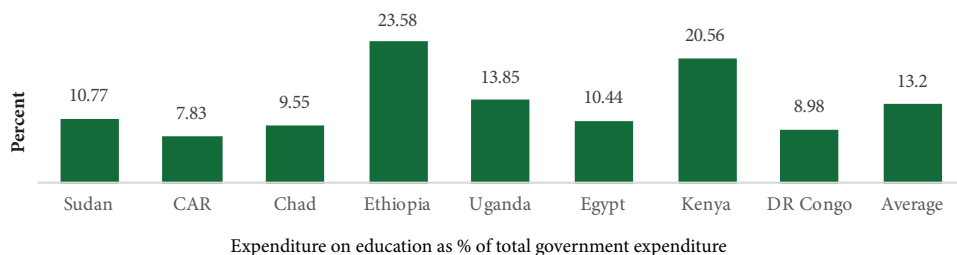
Figure 27: Education spending as percentage of GDP, 2009



Source: UIS, 2017.

³ Information provided by the national coordinator for the CBR.

Figure 28: Education expenditures as percentage of total government expenditures, 2009



Source: UIS, 2017.

The share of recurrent education spending assigned to each education level provides an indication of government education priorities. Basic education, with the largest share of spending (49%), benefits from a specific government focus, followed by higher education (30%) (World Bank, 2012). While general secondary education accounts for 16% of spending, only 1% of spending goes to technical secondary education. Pre-school education and literacy programmes account for the smallest spending shares: 2% and 1% respectively. The relatively small spending share for literacy programmes contrasts with the large share of children who have never attended school.

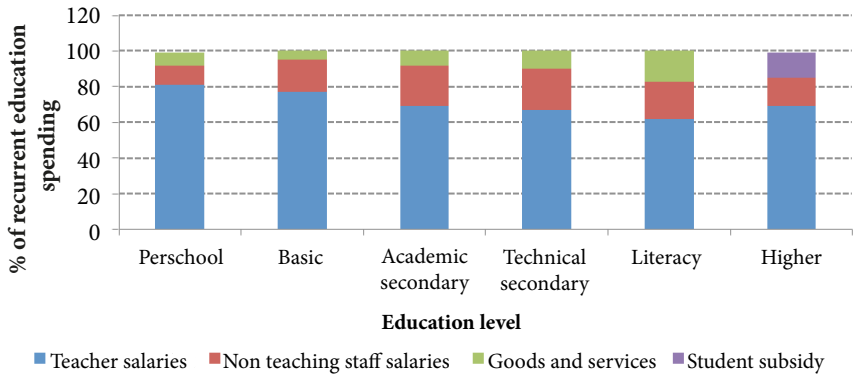
Table 14: Recurrent public education spending, by education level, 2009

Education level	Recurrent education spending (constant 2008 SDG millions)	Share of total recurrent education spending (%)	Share of total public enrolment (%)
Pre-school	54	2	7
Basic	1,068	49	74
Secondary			
Academic	359	16	9
Technical	20	1	0.4
Literacy programmes	22	1	3
Higher	663	30	7
Total	2,187	100	100

Source: World Bank, 2012.

At all levels except higher education, teachers' salaries represent the largest share of education spending, while spending on goods and services is generally low, particularly for basic education. The relatively small share of spending on goods and services in basic education is frequently supplemented by household spending for school running costs.

Figure 29: Composition of recurrent public education spending, by education level, 2009



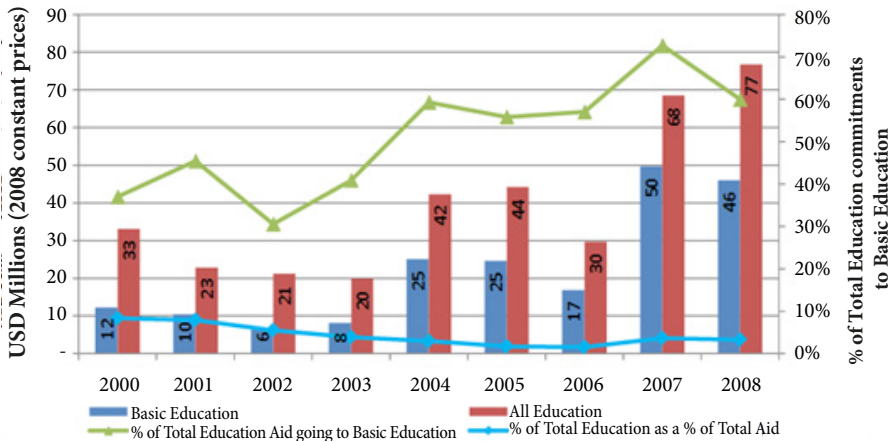
Source: World Bank, 2012.

Foreign aid⁴

In the light of the challenges Sudan faces with its education system, foreign resources to the education sector are a vital lifeline in addressing some of the key issues the country has to cope with. The UNESCO Global Education Monitoring (GEM) Report of 2010 states that Sudan was estimated to receive an average of \$313 million per year between 2008 and 2015 to achieve the Education for All (EFA) goals by 2015. Specific foreign aid commitments to the education sector in Sudan have generally shown an upward trend since 2003. Basic education saw steep increases in 2007 and 2008, with aid reaching \$49.8 million in 2007 before falling slightly to \$46 million in 2008. In the same years, basic education accounted for 73% of all commitments to Sudan’s education sector in 2007, falling to 60% in 2008 (UNESCO, 2010).

⁴ Information provided in this domain is the latest available (September 2016).

Figure 30: Commitments to the education sector in Sudan, 2000–2008



Source: UNESCO, 2010.

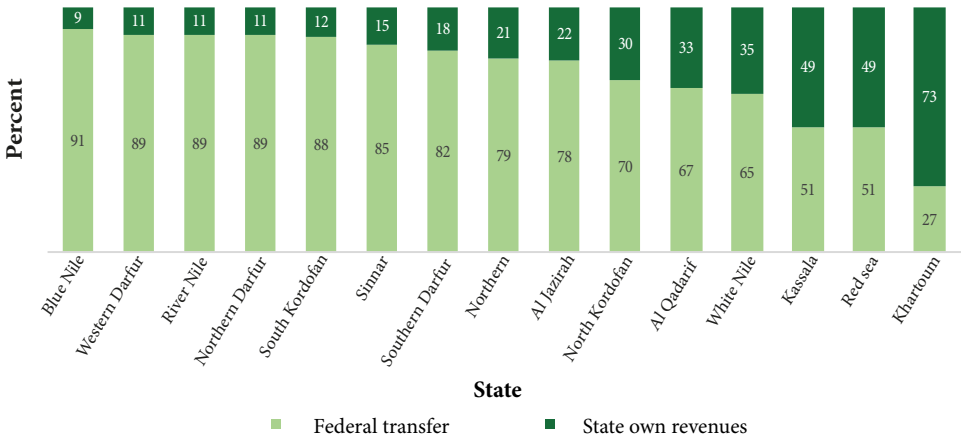
■ 2.4.7. Governance

As explained previously, the CPA and the Interim Constitution of the Republic of Sudan in 2005 led to the creation of a decentralized system of education delivery. This decentralized system is made up of three levels: the FMoGE, the SMOGEs and the localities. The role of the FMoGE in Khartoum is to plan, coordinate and monitor across the three general levels of education. It is also responsible for policy development in three key areas, namely secondary-school certification, the qualification framework for teachers and development of the basic- and secondary-education curricula. The SMOGEs are in charge of policies related to human resource management and certification for basic education. In addition, they share with the localities the responsibility of the delivery of the three general levels of education.

This decentralized system brings the decision-making process and resources closer to the regions (the number of which changes from one year to another: there were fifteen regions in 2012 and eighteen in 2016), enabling them to address their specific needs and contexts. It also significantly increases the responsibilities of the states as well as education spending at the state level. In practice, however, decentralization turns out to be a challenge. First, the varying capacities of each region to raise revenue and implement policies create difficulties. Moreover, the fiscal autonomy of the states is still limited because they continue to rely heavily on federal transfers and also because federal policies influence salary determinations and teacher employment,

the largest items in state education budgets. Also, as the roles and responsibilities of each level of government are not clearly defined, reporting to and coordinating with the FMOGE presents various difficulties for the states and localities. Hence, the lack of human and financial resources at the locality and state levels impedes an effective decentralization process, which leads to greater regional disparities.

Figure 31: Federal transfers and state-owned revenues as a share of total revenues, 2008



Source: World Bank, 2012.

Privatization

Private education has been growing steadily in Sudan, fuelled by parents’ desire to provide their children with a higher quality education, as well as the government’s declared policy to achieve a 10% expansion in private education by 2015. Private education tends to be better quality than public education, as private schools are able to attract more capable educators and provide better learning environments.

Consequently, even if government schools represent the largest share of schools, non-public schools play an important role particularly at the pre-primary and secondary levels. Non-government pre-schools enrol 38% of children, and the private sector accounts for 24% of students at the secondary level (World Bank, 2012). In 2004/05, out of a total enrolment of 4,299,737 pupils in basic education, 6.3% of them were enrolled in private schools (UNESCO, 2008). In 2012/13, out of 5,273,661 pupils in basic education, 7.8% of them were enrolled in private education.⁵

⁵ Information provided by the national coordinator for the CBR.

Most of these non-government primary schools are located in Khartoum, South Darfur and South Kordofan, which account for 64.6%, 10.4% and 8.6% of total private enrolment, respectively. For secondary education, private school enrolment is heavily concentrated in the states of Khartoum and Al Jazirah, which in 2004/05 accounted for 45.4% and 31.8% of private secondary-school enrolment, respectively, though the rates declined in 2012/13 to 38.2% and 20.1% (UNESCO, 2008).⁶

This growth in private education provision can threaten the national commitment to free education. An analysis conducted in sixteen sub-Saharan African countries states that the share of private schools tends to be underestimated by national data, due to the fact that some private schools operate without any official recognition (UNESCO, 2016b).

Monitoring and evaluation

Monitoring and evaluation (M&E) has a vital importance in the education system. Indeed, it should not be seen simply as an internal matter limited to providing information to actors within the educational administration, but also as a strategy to keep actors outside the administration better informed, giving specific attention to parents, students and other ‘beneficiaries’ of education. This may help ensure greater transparency and could reinforce the sense of ownership over the education system within civil society. In addition, the effectiveness of the existing M&E tools has a strong impact on coordination and regulation. On an individual level, M&E practices can be sources of motivation for staff in cases where M&E has an impact on their performance and their future. Thus systematizing M&E procedures can contribute to institutional capacity development.

SECTION 3: POLICY ANALYSIS AROUND SELECTED SDG 4 TARGETS

The table below, provided by the Planning Department in the FMoGE, describes available information for each of the SDG 4 targets. As indicated, some data is missing, especially for targets 4.5 and 4.6, which is further analysed in this chapter.

6 Information provided by the national coordinator for the CBR.

Table 15: Availability of data around SDG 4

Sudan

Target	Indicator	Availability	Last available data	Data disaggregation					Comment	
				By age	By sex	By location	By wealth	By disability		
4.1	1	P	2015	P	P	P	N	N	(1), (2), (3).	
	2	Y	2015							
	3	Y	2015	N	Y	Y	N	N		
	4	Y	2013	N	Y	Y	N	N		
	5	Y	2014	N	Y	Y	N	N		
	6	P	2012	-	-	-	-	-		(4)
	7	Y	2015							
4.2	8	N								
	9	N								
	10	Y	2013	N	Y	Y	N	N		
	11	Y	2013	N	Y	Y	N	N		
	12	Y	2015							
4.3	13	Y	2015	Y	Y	N	N	N		
	14	N								
	15	N								
4.4	16,1	N								
	16,2	N								
	17	N								
4.5	18	Y	2013	N	Y	Y	N	N		
	19	Y	-							
	20	N								
	21	Y	-							
4.6	22	P	2008	N	Y	N	N	N	(5)	
	23	Y	2008	N	Y	N	N	N		
	24	N								
4.7	25	P	2015						(6)	
	26	N								
	27	N								
	28	N								
	29	Y	2013							
4.a	30	P	2015			Y			(7)	
	31	N								
	32	N								
	33	N								
	34	N								
4.b	35	N								
	36	N								
4.c	37	N								
	38	N								
	40	Y	2012	-	-	-				
	41	N								
	42	N								
	43	N								

Y: Available, N: not available, P: Partially available, "": No information provided

Indicator is not relevant for disaggregation

Comments

- (1): No data on proficiency in mathematics at the end of lower secondary education.
- (2): No data by age on proficiency in reading in Grade 2/3, end of primary and end of lower secondary education.
- (3): No data by sex, by location and by wealth for proficiency in mathematics in grade 2/ and in mathematics at the end of
- (4): No data on children over-age for grade in lower secondary education
- (5): No data on population by age group with proficiency in numeracy skills
- (6): No data on the Extent to which education for sustainable development is mainstreamed in student assessment.
- (7): No data on schools with basic hand-washing facilities

Source: FMoGE, 2017.

The following sections review three policy priorities related to three SDG targets from various angles of analysis.

3.1. Target 4.1: Primary and secondary education

By 2030, ensure that all girls and boys complete free, equitable, and quality primary and secondary education leading to relevant and effective learning outcomes

Target 4.1 envisages universal primary and secondary completion as a path to relevant and effective learning. Progress towards this target will be seen as a key measure of government and international community commitment towards the SDGs.

Drawing on the available data and indicators, an analysis will be carried out to review and assess the progress made in the areas of 1) access, participation and completion, and 2) compulsory and free education.

■ Access, participation and completion

Access needs to be monitored closely in the new agenda, which aims to achieve twelve years of education for the current cohort by 2030. This target addresses participation in primary, lower secondary and, for the first time, upper secondary education. The new agenda marks an important step forward with its emphasis on completion relative to participation (UNESCO, 2015).

As previously discussed, Sudan's primary level GER was 70.4% in 2013, which is lower than the average among its neighbouring countries (UIS, 2017). School life expectancy at this level has shown a slight upward trend, reaching 4.22 years in 2013. Secondary level GER has not exceeded 43%, despite a slight increase since 2007, and school life expectancy at the secondary level was only 2.13 years in 2013. These figures clearly indicate that many children are out of school in the country. Indeed, with 2,712,568 out-of-school children, Sudan has the second-highest number of out-of-school children among countries in sub-Saharan Africa and the Arab region. The 2012 graduation ratio indicates that 58.76% of pupils received the Basic Education Certificate, while 38.75% of pupils at the secondary level passed the Sudan School Certificate examination.

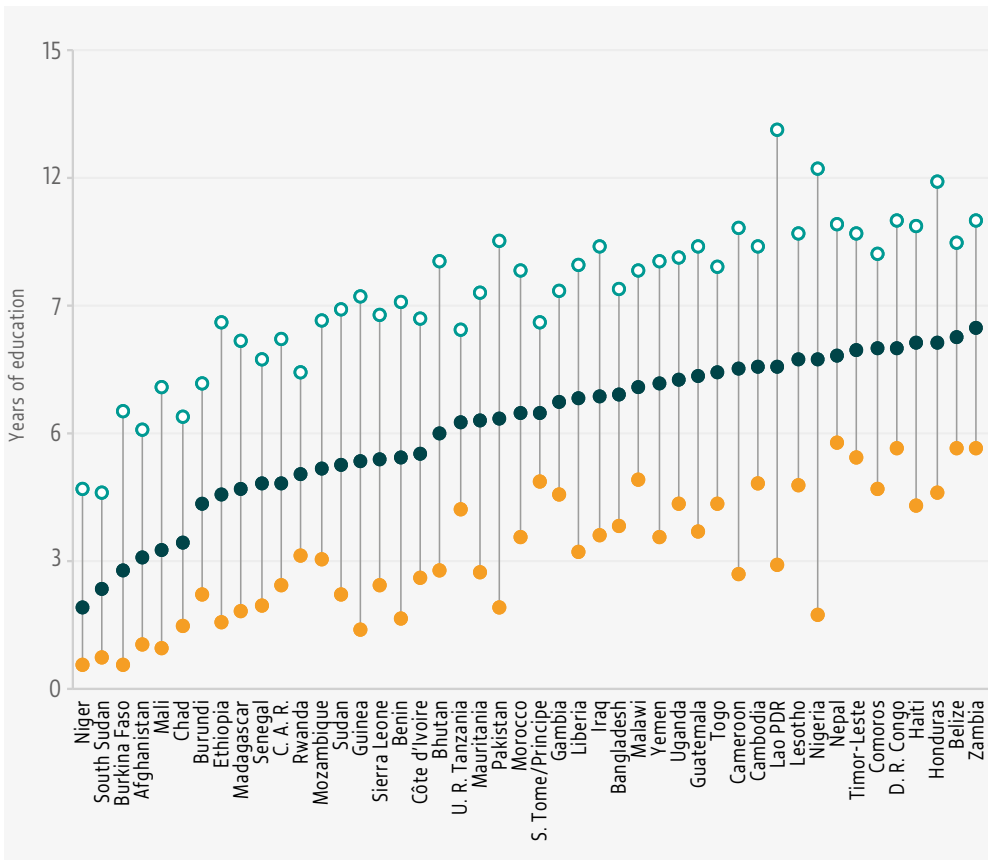
■ Compulsory and free education

One of the thematic indicators for this target is the amount of 1) free and 2) compulsory primary and secondary education guaranteed in legal frameworks. The median number of years is ten for compulsory education, twelve for free education.

The share of total education expenditures borne by households at each level is a stronger indication of the extent to which education is free (UNESCO, 2016b).

According to the Interim Constitution, basic education is officially free and compulsory. As basic education consists of eight years (children from 6 to 13 years old), it guarantees that all children can access and achieve the primary level of education. However, as explained above, basic education still has a cost, and families still have to contribute to schooling fees, which pose an obstacle to education access.

Figure 32: Years of education attained among 20- to 24-year-olds by wealth, selected countries, 2008 and 2014

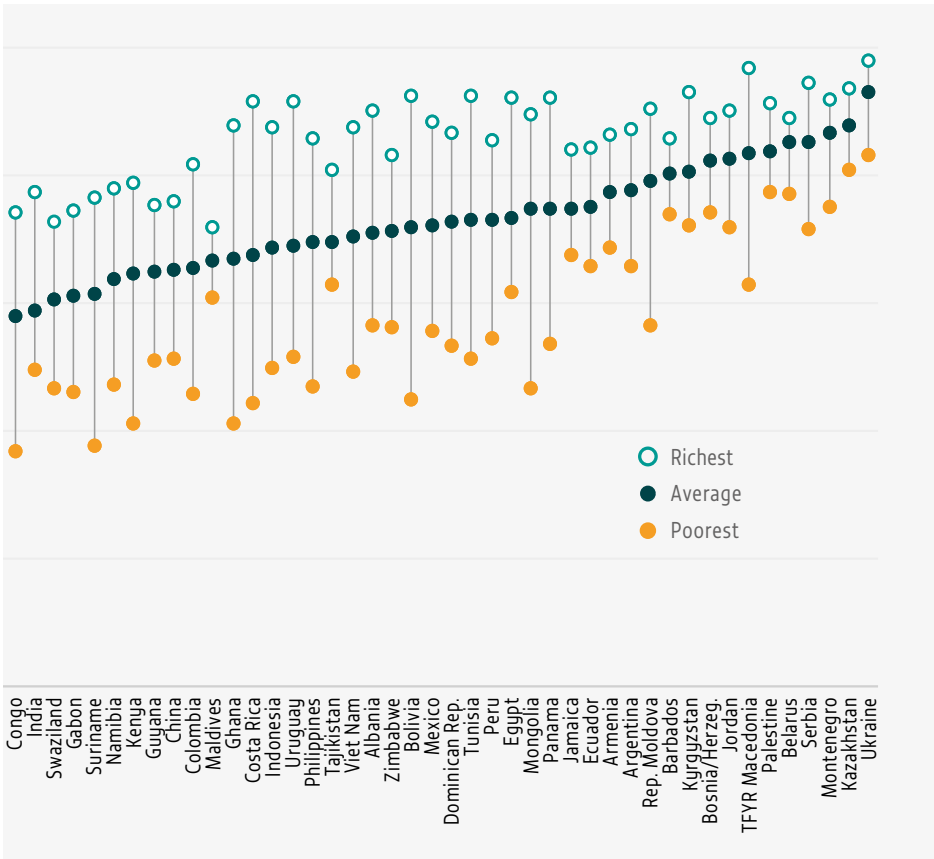


Source: UNESCO, 2016b.

Only in two out of ninety low- and middle-income countries do the poorest young people attain at least twelve years of education. The figure above indicates that in Sudan, even though basic education is officially free and compulsory, the poorest young people hardly attain one year of education, whereas their richest counterparts achieve nine years of education.

■ Quality

The monitoring framework for this target only focuses on two indicators related to learning outcomes and equity, which are both seen as crucial dimensions of quality: classroom-related inputs and processes, and textbook availability and use.



There is a significant gap in materials and school infrastructure between urban and rural schools in Sudan. Pupils in urban schools are the most advantaged (even if their conditions do not necessarily match the official policies and recommendations), with 73% of them sitting at a desk. Also, urban teachers are provided with better materials and learning environments including usable chalkboards. Rural schools do not have equal conditions as they are not often provided with chalkboards or usable chalkboards, and only 17% of their pupils have a desk (World Bank, 2012).

■ Learning outcomes

The main questions in regard to learning outcomes are related to the definition of relevant and effective learning outcomes, the way to measure them, and the findings resulting from them. Moreover, measuring the proposed global indicator – reading and mathematics skills – requires consensus on the content of the learning outcomes to be assessed, the quality standards that the assessments need to meet, and the reporting and defining benchmarks to be used.

■ Learning outcome measures: defining the content

To define a minimum proficiency level in domains such as reading and mathematics, an assessment needs basic parameters. Key questions that need to be addressed include: What happens when common ground needs to be found between different curricula? What is an expected progression of learning across curricula? What questions show that a learner has reached a particular level of proficiency? How are the levels of proficiency defined?

Sudan has not participated in recent large-scale international learning assessments, namely the Trends in International Mathematics and Science Study (TIMSS), held in 2007, 2011 and 2015, and the Progress in International Reading Literacy Study (PIRLS) held in 2006, 2011 and 2016. Sudan is also not included in the Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ) examinations.

Key issues affecting the implementation of SDG target 4.1 are mainly related to **limited educational resources**. The overall lack of investment in education is translated into schools lacking basic supplies and a decent and safe environment with sufficient sanitation facilities. States that have been afflicted by conflicts are even more concerned with these issues. The **shortages of learning spaces and qualified teachers** are another issue. The FMoGE reported in 2007 that nearly 5% of children had to travel more than 3 km to attend the nearest school, while in urban areas class size could exceed 100 students (UNICEF, 2009). In addition, the Teacher Training Assessment estimates that there may be as many as 110,000 unqualified teachers in the

education system. The **lack of alternative and ‘out of school’ education** represents another issue, as there is a shortage of learning programmes for children who are not enrolled in formal schooling. The **costs of education** are another disincentive. While education is officially free, families still have to contribute financially to their children’s schooling by paying for textbooks, school uniforms, examination fees and sometimes teachers’ salaries. While the richest families can afford these fees, their poorer counterparts are not able to cope with such costs. This makes their children fifteen times more likely to not access education. So **poverty** as well as **child labour** turn out to be serious challenges in terms of accessing education. In addition, **societal attitudes towards education** still prevent children from accessing school. Indeed, in some communities and rural areas, children are expected to work to support their families. Also, the role of girls is seen as being limited to domestic helpers and future wives and mothers. Some groups tend to devalue education, especially when compared to the need for labour on family farms/herds. Finally, the **limitations of available data**, including disaggregated and solid EMIS data as well as data on national assessment, is a great obstacle when it comes to measuring learning outcomes.

3.2. Target 4.5: Equity

By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations

■ Inequality measures

The gender parity index (GPI) has been proposed by the Inter-Agency and the expert group on SDG indicators as the global measure of inequality in education. This measure includes a wide range of characteristics among which disparity by wealth is the most extreme.

■ Gender

In addition to enrolment rates, the GPI for monitoring gender equity can be used to take into account all education indicators, from enrolment to learning outcomes. However, in order to better monitor gender equality, there is a need to collect further data on diverse aspects of curricula, textbooks, and so on as they relate to gender.

National data and averages on gender equality need to be carefully examined, as they can conceal gaps within particular groups inside a country. UNESCO’s 2016 GEM Report states that gender parity is achieved in sub-Saharan Africa for those who have

completed primary education among the richest 20%, while among the poorest 20% just 83 females per 100 males complete primary education. The disparity widens to 73 females for lower secondary and 40 for upper secondary (UNESCO, 2016b).

Table 16: Gender parity index, by region and country income group, 2014

	Primary education		Lower secondary education		Upper secondary education	
	GPI	Countries with parity (%)	GPI	Countries with parity (%)	GPI	Countries with parity (%)
World	0.99	63	0.99	46	0.98	23
Low income	0.93	31	0.86	9	0.74	5
Lower middle income	1.02	52	1.02	33	0.93	17
Upper middle income	0.97	71	1.00	60	1.06	22
High income	1.00	81	0.99	59	1.01	37
Caucasus and Central Asia	0.99	100	0.99	83	0.98	29
Eastern and South Eastern Asia	0.99	86	1.01	57	1.01	37
Europe and Northern America	1.00	93	0.99	67	1.01	31
Latin America and the Caribbean	0.98	48	1.03	39	1.13	19
Northern Africa and Western Asia	0.95	56	0.93	46	0.96	33
Pacific	0.97	64	0.95	44	0.94	0
Southern Asia	1.06	29	1.04	25	0.94	38
Sub-Saharan Africa	0.93	38	0.88	19	0.82	6

Source: UNESCO, 2016b.

The latest data available shows that in Sudan, the share of girls enrolled in primary and secondary schools is lower than the share of males. When other indicators such as income and location are taken into consideration, it becomes clear that there are compounding effects from gender and rurality, such that a poor rural girl is 25% less likely to ever access school than a rich urban boy (World Bank, 2012). The opposite trend is seen at the pre-primary and tertiary levels, where females outnumber males

(UIS, 2017). Also, when it comes to the share of out-of-school children, figures show that females have a slight advantage, with 1,298,832 girls of primary age out-of-school, compared to 1,413,736 of their male counterparts.

■ Disability

UNICEF and the Washington Group on Disability Statistics are working on the development of an internationally comparable and operational measure of disability. There is also a need to measure how well prepared and trained educators are, as well as whether school infrastructures are adapted to address the needs of students with disabilities.

In 2013, Sudan launched the National Strategy for the Education of Children with Disabilities, which covers the time period of 2013–2016. The strategy aims to increase inclusion of children with disabilities in the school system as well as improve school infrastructures to enable physical access to schools for these pupils. In addition, 'Special Education' departments have been created in SMOGEs.

According to the 2008 National Sudan Census Survey, people with disabilities make up about 4.8% of the general population. Based on these figures, it is estimated that approximately 720,000 Sudanese children under the age of 18 have a disability (UNICEF, 2013).

■ Language

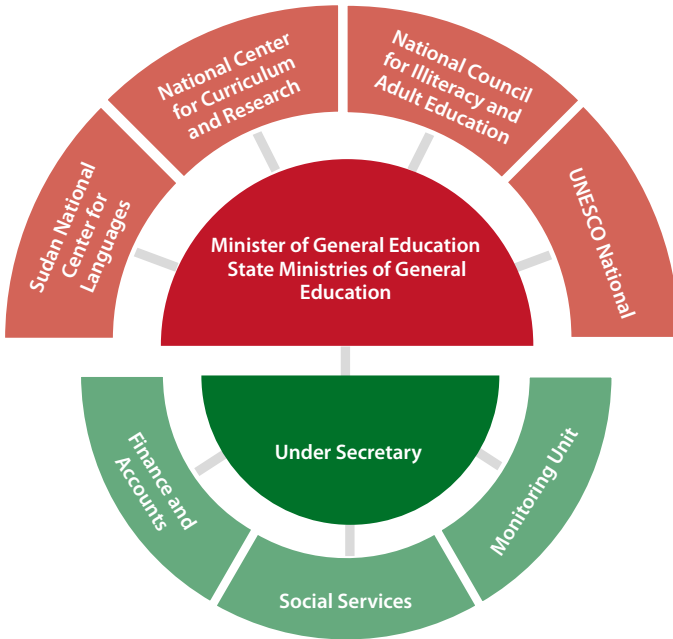
The large disparities in education outcomes can be attributed in large part to the neglect of mother-tongue-based multilingual education. It is estimated that about 40% of people around the world do not have access to instruction in a language they speak.

Sudan is home to a large linguistic diversity, with 134 living languages listed in the country (UNESCO, 2008). Despite this diversity, the official languages are English and Arabic with a strong prevalence of the latter, since it is the lingua franca in the country. The General Education Organization Act (1992) designated Arabic as the official language of instruction, and the Higher Education Act of 1990 also designated Arabic as the language of instruction for tertiary education. At the primary level, while Arabic is the main language of instruction, the use of local languages, if needed, is allowed (IBE-UNESCO, 2012).

In 2008, it was reported that the Government of Sudan approved the development of materials in different languages. UNESCO also suggested developing a language policy, in order to increase the quality and relevance of education (UNESCO, 2008).

The Sudan National Centre for Languages (SELT) is one of the entities that reports directly to the FMoGE. Details about the work and responsibilities of SELTI could not be found in any documents used for this review.

Figure 33: Organizational structure of the FMoGE



Source: World Bank, 2012.

■ Migration and forced displacement

Migration from rural to urban areas generally facilitates access to public services, even though most people from rural areas settle in slum or peri-urban zones where access to public schooling is limited. Because the government does not acknowledge them, internally displaced people constitute the main challenge in terms of education issues related to migration. UNESCO’s 2016 GEM reports that “in 19 of 42 displacement camps in 6 states of Nigeria in June 2015, children had no access to formal or non-formal education” (UNESCO, 2016b, p. 272).

In 2008/09, government IDP schools accounted for 1.6% of all basic schools, and a large share of these schools were located in conflict-affected areas like West and South Darfur – 24% and 13% respectively (IBE-UNESCO, 2012). In the same period,

it is reported that these schools represented 4% of total basic-school enrolments (World Bank, 2012). However, these figures do not take into account the possibility of IDP children enrolling in regular schools. Moreover, NGOs also run schools within IDP camps, which enrol a significant share of students in some states, including Khartoum (13% of total basic-school enrolment), Red Sea (10%), Kassala (8%) and Southern Darfur (10%). Despite the lack of data concerning the schooling of IDP children, “this enrolment is quite small if we consider that there are an estimated 2.7 million IDPs in the Darfur states alone and that almost 700,000 of these, or 25.7%, are between the ages of 6 and 13” (World Bank, 2012, p. 49). It is thus hard to conclude what share of IDP children are able to access education.

Table 17: Number of schools and enrolments in government IDP schools

	2007-2008	2008-2009	Percentage increase
Number of schools	339	261	-23
Number of students	109,508	212,602	94
Average number of students per school	323	815	152

Source: World Bank, 2012.

The main challenges to the implementation of SDG target 4.5 pertain to the **lack of data**, particularly for IDPs. Indeed, data on the size of this population is scarce and varies substantially from one source to another. For instance, the United Nations High Commissioner for Refugees (UNHCR) states that there were 4.9 million IDPs in Sudan, whereas the 2008 population census reported there were about 780,000 of them (World Bank, 2012). Thus, collection and analysis of data concerning IDP schooling is extremely difficult, and this impedes the ability of the country to better understand and address the educational needs of IDPs. **Societal attitudes towards education** represent another barrier in the implementation of target 4.5, not only for girls but also for children with disabilities. While the role of girls in some communities prevents them from accessing education, social stigma and negative social perceptions are also attached to disability. These, coupled with a **lack of access to services for children with disabilities** as well as a **lack of trained and skilled professionals to address disability issues** represent a great obstacle that prevents children with disabilities from accessing and participating in education. **Long distances to schools and unsafe school environments**, especially for girls and children living in rural areas, pose further barriers. A UNICEF study conducted in 2008 reported that many parents did not send their daughters to school out of concern for their safety as they walk to school or even in the schools themselves,

despite a strong desire to educate them (World Bank, 2012). The lack of safer and more child-friendly school environments, as well as a shortage of female teachers, act as barriers to education for the most vulnerable children, including both girls and boys.

3.3. Target 4.6: Literacy and numeracy

By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

■ Participation in adult literacy programmes

Because measuring adult participation in formal and non-formal literacy programmes is difficult, it is recommended that the Global Report on Adult Learning and Education develop a standardized reporting template that at least captures adult participation in publicly provided or sponsored literacy programmes. UNESCO's 2016 GEM Report states that "between 2004 and 2011, 6% of adults aged 15 to 49 had ever participated in a literacy programme" in twenty-nine low- and middle-income countries (UNESCO, 2016*b*, p. 277). It is also noted that women constitute the great majority of illiterate adults.

Even though literacy and adult education represent the largest subsector outside the framework of the formal education sector, enrolments do not follow a regular pattern. On the contrary, they tend to fluctuate greatly from a year to another: in 2008/09, enrolments were about 180,000 students, down from 300,000 a year earlier and almost 400,000 at the beginning of the decade (World Bank, 2012). Not surprisingly, adult women constitute the main portion of adults attending adult education, representing 76% of enrollees.

Table 18: Enrolments in literacy and adult education by state, 2008/09

	2008/2009		2008/2009
Northern	12,340	Northern Darfur	0
Red Sea	36,189	Southern Darfur	0
River Nile	5,335	Western Darfur	0
Khartoum	0	Kassala	0
Al Jazirah	12,354	Al Qadarif	14,105
Blue Nile	0		
Sinnar	9,946		
White Nile	0		
North Kordofan	11,067		
South Kordofan	16,464		

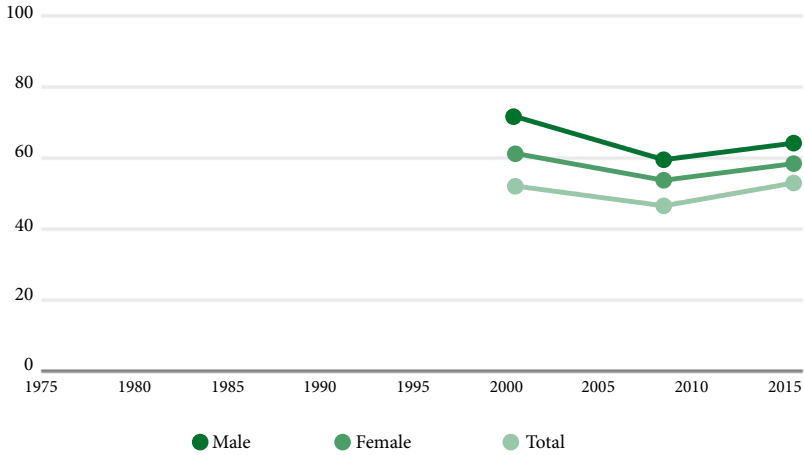
Source: World Bank, 2012.

■ Literacy rates

Due to the lack of efficient measurement tools, youth and adult literacy rates are based on traditional literacy measures, even though the SDG agenda strongly recommends drawing on measures of proficiency in functional literacy and numeracy skills. Over the period from 2005 to 2014, 758 million or 15% of adults lacked functional literacy skills worldwide. Again, the majority (63%) of them are female (UNESCO, 2016b).

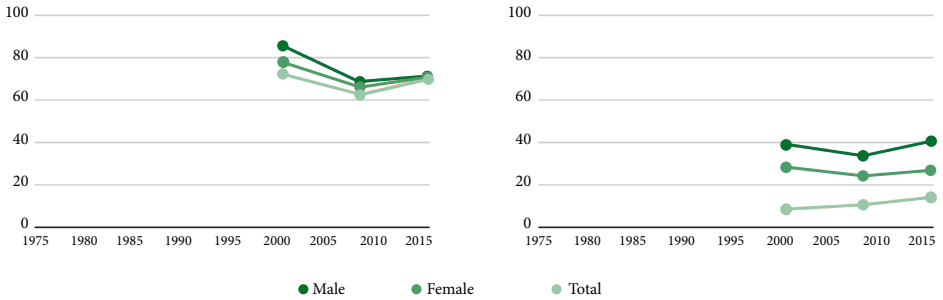
As a consequence of the long-lasting conflict and the corresponding interruption in education delivery, from 2000 to 2015 literacy rates showed an irregular trend and remained quite low. Whereas female literacy rates tended to increase (with the largest increase for women aged 65 years and older) or at least remain quite stable, the male literacy rates significantly decreased, with the exception of the rate for men aged 65 years and older, which showed a slight upward trend. As a result, the illiterate population continued to increase during this period (UIS, 2017).

Figure 34: Literacy rate among the population aged 15 years and older



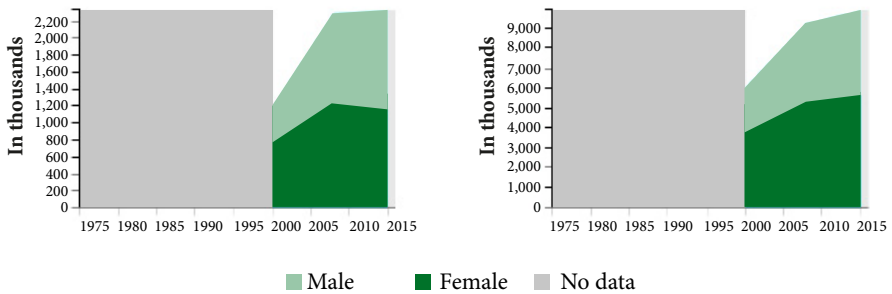
Source: UIS, 2017.

Figure 35: Literacy rate among the population aged 15–24 years (left) and literacy rate among the population aged 65 years and older (right)



Source: UIS, 2017.

Figure 36: Illiterate population aged 15–24 years (left) and aged 15 years and older (right)



Source: UIS, 2017.

■ Literacy and numeracy proficiency

Many high-income countries have information available on adult literacy and numeracy proficiency levels, which is not necessarily the case for other countries. In order to obtain comparative literacy and numeracy assessments, international collaboration is required. UNESCO’s 2016 GEM Report states that “to provide useful monitoring data by 2030, a successful approach has to balance countries’ ability to proceed on their own against the need for assessments to meet global standards” (UNESCO, 2016*b*, p. 283).

Issues faced by literacy and adult education are related to **structural and logistic constraints**, as centres providing literacy and adult education are often located in poverty-stricken environments where local communities cannot afford to fund or sustain their activities. The **need for qualified staff** to provide instruction is also an obstacle, as national service and volunteer teachers constitute the main portion of literacy teachers (63%), while government teachers account for only 27% of total staff (World Bank, 2012). **Linguistic diversity** is another challenge, with the most recent census information reporting that there are 134 living languages in the country (UNESCO, 2008). Moreover, some groups tend to be excluded from literacy because they speak unwritten dialects. Hence, the language of instruction forms a barrier in terms of literacy and adult education. A **lack of assessment and follow-up** can also be noted, which impedes the implementation of SDG target 4.6.

■ Chapter 2: Teacher policies and development

SECTION 1: CURRENT CONTEXT OF TEACHER EDUCATION AND POLICIES IN SUDAN

Sudan remains in an expanded emergency and development crisis, which affects at least 3.24 million children and creates a very challenging educational context (UNICEF, 2015). The 2011 Doha Peace Agreement provided for a regional political authority with both legislative and executive functions, and an administrative structure. This reflects considerable devolution of political power and establishment of a broad development management system, which involves allocation of human and financial resources that can bring lasting peace and development to the population of Sudan.

The independence of South Sudan and the remaining conflicts in some regions of the country are likely to lead to a significant decline in government financing to social services. All sectors, including education, are affected by this contraction of resources, placing at risk the significant gains of the last decade. Expanding the existing education system will require a commitment to promote a strong, efficient, equity-oriented approach to service delivery. Sudan's upcoming education sector plan will highlight priorities and can be used to mobilize both internal and external financial resources (World Bank, 2012). The Government of Sudan is implementing its Quarter Century Strategy (QCS 2007–2031), which calls for peace and development, improving the living conditions of all people, and attaining the vision of a civilized, peaceful and united Sudanese nation (Republic of Sudan, 2015).

Despite the changing and challenging political, economic and social context, Sudan is engaged in a deep reform of its education system and teaching profession. The 2012 national education conference recommended the establishment of a professional academy for the continuous training of general education teachers and a national council for education professions, which would be responsible for the professionalization of the teaching function and the licence to practise the profession. The same conference pointed out the need to redesign the curricula for colleges of education to meet both the qualitative and quantitative needs of teacher education by adopting a sequential approach together with the integrative one (FMoGE, 2012).

Teacher policy is one of the key domains enabling Sudan to improve the quality of teaching and learning. As pointed out by UNESCO (2015), teachers are the key factor to achieving every aspect of the Education 2030 agenda. Teacher policy requires urgent attention because the equity gap in education is exacerbated by the shortage and uneven distribution of professionally trained teachers, especially in disadvantaged areas in Sudan. As teachers are a fundamental condition for guaranteeing quality education, teachers and educators should be “empowered, adequately recruited and remunerated, well trained, professionally qualified, motivated, equitably and efficiently deployed across the whole education system, and supported within well-resourced, efficient and effectively governed systems” (UNESCO, 2015, pp. 10–11).

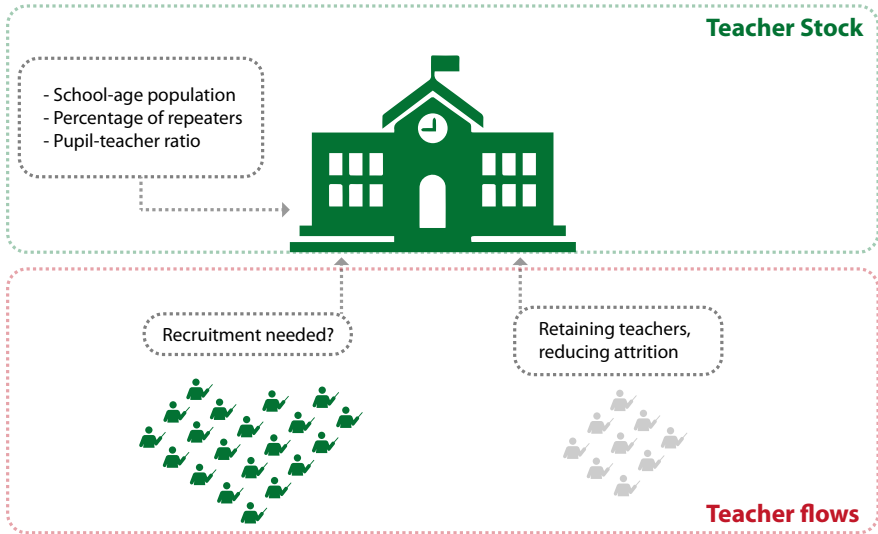
SECTION 2: TEACHERS IN SUDAN IN INTERNATIONAL AND COMPARATIVE PERSPECTIVE

As suggested by UIS (2016), an education system is only as good as the teachers who provide the hands-on schooling. International literature has confirmed teachers’ critical role in improving education quality and learning outcomes, which is why SDG 4 calls specifically for a major increase in the supply of qualified teachers and more support from the international community for teacher training in developing countries. The greatest teacher shortages are in sub-Saharan Africa, which needs a total of about 17 million teachers to achieve universal primary and secondary education by 2030. About 6.3 million primary teachers are needed: 2.4 million to fill new teaching posts to accommodate all children and 3.9 million to replace the teachers expected to leave the profession. At the secondary level, the region must recruit 10.8 million teachers by 2030, including 7.1 million for new teaching positions and 3.7 million to replace those who have left. In northern Africa, 0.8 million teachers will be needed – 0.7 million to replace teachers who have left and 0.2 million to fill new positions – to achieve universal primary education by 2030. At the secondary level, 1.8 million teachers will be needed: 1.1 million to replace those who have left and 0.8 million to fill new positions. The countries facing the biggest teacher shortages in the region are Algeria (0.2 million) for primary education and Egypt (1.1 million) for secondary education.

The demand for teachers in Sudan is driven by a number of factors: change in the size of the school-age population, the percentage of repeaters and the average number of students per teacher in each classroom. It is possible to draw on these main determinants of demand for teachers to estimate the workforce needed to achieve universal primary and secondary education by 2030. From the supply side, the most

common influencing factors are entry into the profession (recruitment), retention and attrition. Typically, a shortage of teachers translates into either overcrowded classrooms or insufficient hiring of new teachers to staff new classrooms (as a result of increased enrolment) or replace teachers who have left the profession. Teacher absenteeism may also influence the teacher supply.

Figure 37: Teacher supply and demand



Source: UNESCO Institute for Statistics database

The table below provides a comparison between Sudan and four other countries: two Arabic-speaking countries (Egypt and Jordan) and two sub-Saharan countries (Ethiopia and Kenya). Some of Sudan's indicators are comparable and others are not. To achieve the Education 2030 agenda, Sudan needs to almost double the teaching force by 2020.

Table 19: Comparison of indicators related to teaching: Sudan in international perspective

	Sudan	Egypt	Ethiopia	Jordan	Kenya
Population of the official age for primary education, both sexes (number)	6.3 million	11.1 million	16 million	1 million	7.7 million
Population of the official age for secondary education, both sexes (number)	4.7 million	9.9 million	14.6 million	0.946 million	6.4 million
Teachers in primary education, both sexes (number)	164,400	480,800	244,800	–	266,500
Total teacher recruitment needed by 2020 for primary education	172,600	–	277,500	–	–
Projected number of primary teachers needed by 2030 (new posts and attrition)	335,900	–	507,800	–	–
Teachers in primary education, female (number)	–	282,000	102,700	–	133,900
Percentage of teachers in primary education who are female (%)	62	58.7	41.9	–	50
Teachers in secondary education, both sexes (number)	53,400	571,500	122,100	–	198,800
Teachers in secondary education, female (number)	–	257,900	29,600	–	83,800
Percentage of teachers in secondary education who are female (%)	54.2	45.1	24.3	–	42

	Sudan	Egypt	Ethiopia	Jordan	Kenya
Class size, in public institutions, in primary education	40	43.1	–	26	–
Pupil–teacher ratio in primary education (headcount basis)	32.1	23.1	64.3	19.9	31
Pupil–teacher ratio in secondary education (headcount basis)	17.1	14.4	40.4	17.9	41
Average number of pupils per reading textbook in primary education (number)	1	0.8	1.1	–	0.5
Average number of pupils per mathematics textbook in primary education (number)	0.9	0.8	1.1	–	1.4
Average size of multigrade classes in primary schools (number of pupils)	–	20.8	–	–	–
Percentage of primary pupils in multigrade classes (%)	–	1	–	–	–
Ratio of teacher training graduates to teachers in primary education, both sexes	–	–	11.5	–	4
Percentage of trained teachers by teaching level of education	66.4 (basic) 69.7 (secondary academic)	72.7	95	–	96.8

Source: UIS, n.d., 2017; UNESCO and FMoGE, 2017; FMoGE statistics 2013/14.

Jordan

Since 1990, teacher education in Jordan has received significant attention. This has come as a response to the recommendation of the First Conference on Education held in Amman in 1987. Since then, in line with the Education Reform Plan approved

at that conference, all new teachers at all levels and subjects have been required to have at least a university degree. Thus, new B.Ed. degrees have been designed and implemented, aimed at preparing teachers for the basic stage of schooling. The degrees offered are a B.Ed. in class teacher preparation (to qualify student teachers to teach all subjects in Grades 1–4) and a B.Ed. in field teacher preparation (to qualify student teachers to teach a particular subject, such as Arabic, English, science or math, in Grades 5–10). In addition, two new programmes were developed to upgrade the qualifications of in-service teachers (Abu Naba'h et al., 2009).

Other reform initiatives were launched in 2003 with the implementation of the Education Reform for the Knowledge Economy (ERfKE) project, which has achieved great progress in the areas of curricular reform as well as textbook development, general exams, national tests, the development of teachers, teaching strategies and evaluation. Further, several training programmes for the professional development of all Jordanian teachers were conducted in 2005 and 2006. In May 2006, the National Teacher Professional Standards Conference was organized (Ashour et al., 2012).

Despite a variety of reforms in teacher policy in Jordan, many problems remain. The mismatch between teachers' actual involvement in curricular decision-making and their aspirations to be involved suggests a considerable gap between these teachers' values and beliefs and the roles assigned to them by government policy (Khan Al-Daami and Wallace, 2007). Another challenge is linked to student outcomes. Teachers, who are tightly constrained by the systems of accountability that dictate the curriculum process and make them responsible for producing their pupils' results, are inclined to criticize the unsuitability of the curriculum as a whole and what they see as the impossible demands made upon them, given their lack of resources (Khan Al-Daami and Wallace, 2007).

The National Strategy for Human Resources Development was launched in 2016 as the all-encompassing framework for education reform. The strategy's recommendations articulate an extensive ten-year plan for teacher training, curriculum development, early child development and the integration of technology into classrooms, with the aim of improving the overall educational environment in Jordan.

Egypt

In Egypt, the debate on teacher policy has been linked to the lack of quality in teacher education. For example, a 1996 World Bank report led to the creation of the Egypt Education Enhancement Program and emphasized the need to improve the quality of pre-service programmes, “focus[ing] on inputs (including the quality of students who enter these programmes), processes, and outputs.” The report highlighted the following problems: ‘low or uneven faculty quality, inadequate facilities..., weak instructional resources..., uneven management..., [weak] quality

controls on organizational entry into the provision of pre-service training..., [out-of-date] standards that prevail informally in the pre-service system..., [and] lack of incentives for institutions to improve the quality of their programmes” (Ginsburg and Megahed, 2011, p. 8).

In 1996, the Egyptian government convened a national conference on developing teachers’ preparation, training and welfare. “This conference, attended by Egyptian and international experts, was stimulated by the fact that the teaching ‘profession as a whole ha[d] received strong criticism from the media, parents and the academics,’ focusing on four interrelated issues: ‘1) the unsatisfactory standard of teachers’ subject knowledge...; 2) current teaching methodologies..., [which] provide little if any opportunity for active student learning; 3) the theoretical component of teacher education courses..., [which] do not attend to [practical] elements of teacher knowledge; ...[and] 4) practical training..., [which] is also under criticism. ... How the student teachers are to be evaluated remains also an important issue” (Ginsburg and Megahed, 2011, p. 8).

The issue of reforming faculties of education remained on the agenda in Egypt. For instance, in February 2000 the Egyptian government convened a national conference on higher-education reform, an event culminating three years of expert committee meetings and public hearings. The Declaration for Action adopted at the end of this conference proposed a subproject to improve the quality of Faculties of Education (pre-service teacher training), which was supported financially by the World Bank.

Kenya

Kenya recognized the need to develop a national programme to improve pedagogical practices in the late 1990s. It also recognized that professional development programmes need to focus on processes in the school and classroom as necessary levels of intervention for improving the quality of teaching and learning. Likewise, it saw the need to link teacher education with head teacher training and community empowerment, including the development of a school-based textbook management system and quality assurance procedures.

The Ministry of Education developed a national, distance-led teacher education scheme for classroom teachers called the School-based Teacher Development (SbTD) programme. SbTD was designed to be cost effective and to combine the benefits of distance education with school-based teacher development. The aims of the programme, which ran from 2001 to 2005, were primarily to improve the quality and cost effectiveness of teaching and learning in primary schools by helping teachers acquire new skills that promote active learning and training them in the use of new textbooks. SbTD was developed as a programme of self-study, using

distance-learning modules combined with regular face-to-face cluster meetings. It successfully graduated over 47,000 primary-school teachers throughout Kenya in the three core subjects of English, mathematics and science. This initial focus was important to SbTD's success in rolling out the training. Three teachers from every school, called Key Resource Teachers (KRTs) were trained to lead school-based professional development within their subject area in their schools. The programme was supported by a zone-based teacher advisory system of over 1,000 teacher advisory centre tutors, who were trained to provide group-based support services to the teachers who were working with distance learning materials while carrying a full-time teaching load in the schools. Head teachers also received training materials so that they could support the KRTs in providing school-based training (Hardman et al., 2011).

Ethiopia

In Ethiopia, teacher policy reforms implemented between 1995 and 2002 by and large focused on incremental changes including revision of curricula, introduction of local languages as a medium of instruction (for primary-school teacher preparation) and modification of recruitment criteria for teacher candidates. As part of the reform effort, existing teacher education institutions were upgraded to diploma-offering colleges, and several new institutions were also opened. However, these early teacher education reforms could only be characterized as incremental until the Ministry of Education introduced a sweeping restructuring in 2003.

One of the most important challenges of teacher policy in Ethiopia is regional inequalities – the need to widen educational access for previously underserved regions, ethnic groups and marginalized segments of society. More specifically, policy needs to overcome the apparent regional disparity via equitable deployment of teachers in underserved and remote regions. The current deployment of primary and secondary teachers in regional states reveals a marked improvement compared to the situation that existed before 1994. However, disparity still persists, particularly at the upper primary level. Another problem is related to the decline in education quality, which is very much real at all levels but particularly alarming at the primary level. It is evident that schools are largely staffed by teachers who not only underwent ineffective teacher preparation programmes, but who also do not seem to have the necessary requisite subject matter knowledge or professional skills. Therefore, reforming the existing lower and upper primary teacher preparation programmes should be an urgent priority. There is a need to establish a merit-based system of recruitment for pre-service teachers by setting acceptable standards, in order to prevent further decline in the quality of the teaching force. Qualified young people prefer to join prestigious fields like engineering and medicine, meaning that the pool

of applicants who satisfy the desired level of academic competence, while at the same time being willing to take up teaching, is not likely to be sufficient (Semela, 2014).

The review of teacher policy in four neighbouring countries (Egypt, Jordan, Kenya and Ethiopia) highlights challenges similar to those in Sudan: inadequate pre-service and in-service training of teachers, lack of professional and academic skills for teaching, and inequitable deployment of teachers. Jordan appears to be the country that has implemented the most innovative initiatives in this area, including a systemic approach to teacher policy. However, Kenya, with regard to the use of distance education for in-service teacher training, and Ethiopia, with regard to the deployment of teachers in underprivileged regions, can also provide useful lessons for Sudan.

SECTION 3: POLICY FINDINGS

Policy Issue 1: Inadequate administrative, institutional and statistical structure to address teacher policy

■ Evidence

Different administrative units are currently involved in teacher policy in Sudan within the FMoGE, MoHESR and SMoGEs, as well as outside these three ministries.

FMoGE/SMoGEs:

- Planning Department
- Training Department
- Teachers National Training Centre (TNTC)
- Teacher Training Institutes (TTIs)
- National Centre for Curriculum and Educational Research (NCCER)

MoHESR:

- Faculties of education within universities

Extra-ministerial:

- National Council for Education Professions (NCEP)
- General Union of Sudanese Teachers

The coordination between these different units is much needed but difficult to manage.

A recent survey indicated that the proportion of untrained teachers in basic-education rural schools has reached 62% of total non-trained teachers. It goes without saying that the proportion of trained urban secondary-school teachers far exceeds that of rural schools, as the bulk of secondary schools are located in urban areas (FMoGE, 2015a). It will be crucial to give the responsibility of training to one unit, although some involvement of other units may be useful.

■ Discussion

An appropriate teacher policy needs a strong and lasting coordination between these different entities and a clarification of the missions and duties of each body. Overlap was observed during our first field mission, particularly between the training department of the FMoGE and the TNCT, and between the university faculties of education and the NCEP.

Currently, there is no centralized national database that can provide evidence or accurate information on the status, deployment, qualification and subject specialization of teachers in Sudan. Such a statistical database is crucial to addressing inequity through teacher policies. The concentration of well-trained and qualified teachers in urban centres and less qualified or untrained teachers in other areas cannot be addressed without knowledge of the teaching body. Such a database could help in the professionalization of the national teaching force by:

- Improving teacher recruitment and training
- Enabling more efficient teacher management at state (governorate) and locality levels
- Improving teacher accountability and commitment
- Building ongoing professional development for teachers

The field visits suggest also a need for clear linkages between pre-service and in-service teacher education, and an alignment of policies, plans and institutional arrangements for teacher education, so that an effective teacher policy can ultimately be implemented on a national scale. This will ensure that teacher education is part of a broader capacity development strategy of the ministries (FMoGE, MoHESR and SMOGEs) that supports all actors in the education system, including head teachers, district education officers and teacher trainers working in resource-poor environments.

■ Policy recommendations

Recommendation 1: Develop a national statistical system to enable effective knowledge of teachers

Better knowledge of the teaching profession, in initial and in-service training and in schools, is a prerequisite for implementing the most effective policies in this field in Sudan. This requires better collaboration between different national and international services and actors. The national database will contribute to profiling teachers and compiling information on total numbers, geographical distribution, types of teachers, gender, qualifications and training.

Recommendation 2: Build a national strategy for teacher policy

A national strategy makes it possible to set up specific responsibilities and relationships between the different actors involved in teacher policy. It is crucial not to have the same actors involved in the same task. For example, continuing education, professional development and in-service training should be dependent on a single department within the FMoGE. The MoHESR should improve the selection of candidates to the faculties of education. Initial training to be a teacher should not remain as a second alternative to candidates not enrolled in faculties that are more prestigious. Reform efforts in teacher policy need to be a holistic and comprehensive national priority by allocating enough funds and ensuring follow-up on the recommendations of the National Education Conference held in 2012. Without a systematic approach that enacts the steps of a common vision, reform will not be successful.

Policy Issue 2: Weak/insufficient articulation between pre-service training, in-service training and professional development

■ Evidence

Academic literature suggests that a strong articulation between pre-service training, in-service training and professional development is a key factor in teacher policy. However, in Sudan these three elements have weak links and produce fragile teacher qualifications and weak professional training.

Before 1993, the two-year diploma course was offered by a network of seventy-three in-service education training institutes, called ISETIs, across Sudan. Teachers attended these institutes one day per week and taught in the schools for the remainder of the work week. The FMoGE was responsible for in-service training. This former system of initial training had several advantages: strong articulation between teaching

theory and practice, involvement of the FMoGE, articulation between training and work, and reasonable cost.

In 1993, the pre-service qualification for basic-education teachers was revised from a two-year teaching diploma to a four-year B.Ed. degree. The staff of the larger training institutes was absorbed into the universities as faculties of education, which would ultimately be responsible for qualifying basic-education teachers through the B.Ed. degree. For secondary-school teachers, the pre-service qualification is also a four-year B.Ed. degree offered by faculties of education in universities. These faculties are responsible for developing both the content of the training and the accreditation process for teachers in secondary schools (World Bank, 2012). The responsibility of in-service training was transferred from the FMoGE to the MoHESR in 1993.

There are two observations about this important structural change to teacher in-service training. While the transfer of responsibility for teacher education to universities may bring a more academic and scientific approach, it may also disconnect in-service training from teacher work and pedagogical daily activity. It is also necessary to follow up this transfer with some measures, such as the attachment of training schools to the education faculties or a strong and mandatory coordination between faculties of education and SMOGEs, as recommended by the national education conference (FMoGE, 2012).

After teacher education sector reform in 1993, few students were enrolling in the B.Ed. degree programme, and even fewer were successfully graduating and eventually teaching. This situation may have occurred because teachers were still being hired regardless of whether they had a B.Ed. In addition, the relatively high cost to students (both fees and opportunity costs) resulted in low numbers enrolling and eventually teaching (World Bank, 2012).

Initial teacher education curricula include academic courses; professional training in educational and developmental psychology, teaching methods and lesson planning; and practical training. New subjects have been introduced such as population, health and environmental education (IBE-UNESCO, 2012).

In 2003, Sudan Open University introduced a partial B.Ed. degree course for teachers who are in service and have no B.Ed. SOU also introduced a one-year diploma in education for graduates of other disciplines. By 2004, the FMoGE stopped funding teachers through faculties of education and funded them solely through SOU. Distance learning and graduation provided by SOU is a good tool to enhance the qualifications of the teaching body in Sudan. However, one may interrogate the ability of distance education to train in a highly practical profession.

In 2008, it was estimated that only 10% of basic-education teachers were officially qualified, though these numbers have presumably increased since the graduation of three years of B.Ed. students, from 2008 through 2010. Assuming that 75% of the teachers admitted completed the course, the estimated number who would have graduated with a B.Ed. from SOU by the end of 2010 is a little over 56,000, which is about 31% of the total number of teachers in Sudan and does not include those who already had a B.Ed. from the faculties of education.

It appears that opportunities for additional qualifications have primarily been provided to teachers who have already earned a university degree. This situation begs the questions: What professional development opportunities are available for teachers without a university degree (for example, those with a secondary education or those with an academic diploma not in the field of education), and can the education system sustain the training, hiring and retaining of teachers with a high level of qualifications in the short to medium term (World Bank, 2012)? Another question is whether teachers' qualifications must be achieved through initial or in-service training.

Although funding from the government for ISETIs was severely reduced after the 1993 reforms, ISETI's FMoGE headquarters and its state branches continue to organize in-service training courses. Apart from the thirty-six-day certificate course, training courses are generally between three and fourteen days and focus on informing teachers about curricular changes as well as specific subjects. The responsibility for funding in-service training is decentralized to the states, but UNICEF and the multidonor-financed Basic Education Project make significant contributions in this regard (World Bank, 2012).

The current teaching body in basic education is characterized by a predominance of female teachers (73.2%) and by a majority of teachers who do not have a university degree (FMoGE, 2017). At the secondary level, the predominance of women is lower and the majority of teachers have a university degree. Nevertheless, faculties of education fail to attract outstanding students who have attained a minimum score of 75% (FMoGE, 2012). If there is a real political will to improve teacher education, it is necessary to attract more students with higher academic qualifications.

To improve the pre-service training within the faculties of education, the national conference of 2012 made the following suggestions (FMoGE, 2012):

- Improve the conditions of service for personnel of higher-education institutions to support the stability of the faculty members.
- Encourage education faculty members to conduct applied research to tackle educational and community issues.

- Enable colleges of education to keep pace with changes in the general education curricula.

More recently, the foundation of the NCEP was an attempt to divide the responsibilities for teacher policy between three institutions:

1. Faculties of education: preparation
2. FMoGE: training
3. NCEP: licensing

This division of labour needs stronger coordination and articulation between different administrative units. The ministries of education and higher education need to review how this institutional arrangement functions at the federal, state and local levels.

■ Discussion

During our field missions, the Sudanese National Association of Teachers suggested grouping the different faculties of education into a national university of education. Such an arrangement would enable comparable and coherent curricula for initial teacher training. It would also involve the FMoGE more in initial teacher training. While it is difficult to imagine a single academic institution responsible for all initial teacher training in Sudan, it is conceivable that faculties of education in Sudan could be grouped together within a national organization to establish a core teacher training curriculum, while at the same time leaving individual education faculties the option to adapt their curricula to regional realities and needs.

Another challenge faced by initial teacher training programmes within the faculties of education is insufficient practical training. Students in faculties of education need a thorough understanding of the content of the curriculum that they are entrusted to deliver, an appreciation of the ways in which children learn and a wide repertoire of skills for delivering the curriculum in ways that will bring about effective learning among their students. These skills can only be developed through experience and guided practice. It is important that training involves opportunities for teachers to develop new skills and techniques and does not just provide them with educational theory. Practice-based training is essential. The current reform of the teacher education curriculum at the University of Khartoum will increase the practical component of the programme. Students will have the opportunity to train at practice schools linked to the faculty. However, teaching conditions in regular schools may be completely different from those observed in practice schools linked to the university in terms of infrastructure, audience and the social background of students.

Since teacher education was upgraded to university status in the early 1990s, the recognized qualification for basic-school teachers nationally is a B.Ed. However, for most teachers in the present context, this is more aspiration than reality (Sugrue, 2001). Policies measures need to be taken to match the capacity of faculties of education nationally to the education system needs of new teachers. It is also important to train more teachers than needed, as emigration to rich Gulf States is one option open to teachers in Sudan.

As reported by the World Bank (2009), the curriculum followed in the pre-service degree programme in the faculties of education is strong on theory and content but weak at providing practical teaching skills for instruction in primary schools. A similar conclusion has repeatedly been made by state and federal officials responsible for managing basic education at the state and central levels. Consequently, it is appropriate to rethink the practical dimension of in-service teachers in Sudan by increasing the number of days in-service teachers spend in real schools during their university training.

Inputs from teachers and head teachers during our field mission point out the limited impact of in-service teacher training in Sudan, not only because only a minority of teachers benefit from training sessions, but also because the concept of training is based on short sessions (*joraa* in Arabic), usually of a very brief duration and with a particular subject focus, which are unable to transform teaching practices and teachers skills. While the involvement of international technical and financial partners in in-service teachers training may be considered as an appropriate trend, it is important to highlight the need for more domestic financing of in-service teachers training.

For in-service training, since the cost of providing teacher training for all untrained teachers is very high, it will be relevant to use distance training and information and communication technology (ICT) in professional development. However, the quality of training using ICT may be difficult to evaluate. Sudan needs a diversity of methods and programmes for enhancing the professional development of teachers. During future field missions, UNICEF informed us that they will give priority to in-service training activities occurring at the locality or school level. Since the context in which teachers are working is constantly changing, teachers need to be able to update their skills and knowledge on a regular basis. Novice teachers need induction courses and should have priority in in-service training.

In view of the urgent need for a mass teaching force to meet the pressing needs at the basic level and the limited output of the colleges of education, a new policy must be sought in Sudan to address this need and to maintain the quality of the teaching force. The new policy for teacher reform should take into consideration the pressing demand for upgrading and training new teachers as well as retraining teachers.

■ Policy recommendations

Recommendation 1: A systemic approach to teacher education

Although initial training and in-service training of teachers depend on two different ministries and administrative levels (national, regional, local), it is crucial to have a systemic approach to teacher education and training for pre-service training, in-service training and professional development. Accountability mechanisms should be implemented carefully to ensure this systemic vision.

Recommendation 2: Improving the competencies and skills of students enrolled in teacher education programmes

Currently, candidates with low marks are assigned to the educational sciences and faculties of education in Sudan. The majority of students in these programmes are assigned to educational specializations contrary to their initial interests. Because of this structural element of education in Sudan, it is imperative to improve the skills and knowledge of graduates by improving the space dedicated to practical training and not only the duration of the internships.

Policy Issue 3: Inadequate policies for distribution, utilization and career opportunities

■ Evidence

Teachers constitute the most expensive element of the education system in Sudan, consuming over 90% of public expenditure and a substantial share of community resources, whereby local communities support the housing and even salaries of some teachers (FMoGE, 2015a).

The composition of education staff differs across education levels. At the pre-school level, government teachers account for 62% of total staff, and national service and volunteer teachers account for 33%. Literacy programmes have an ever-larger share of national service and volunteer teachers (64%), with government teachers accounting for only 27% of total staff. In basic education, by contrast, government teachers account for 80% of all staff. Government non-teaching staff constitute 12% of all staff, whereas non-school-based staff and national service and volunteer teachers compose 4% each. Similarly, at the secondary level, 4% of staff are national service and volunteer teachers, and 6% are non-school-based staff. Government teachers are the largest group (63%), followed by government non-teaching staff (27%) (World Bank, 2012).

Mogazi (2016) points out that contract teachers represent an important share of teachers in Sudan. Approximately 9% of basic education and 17% of secondary education teachers are contract teachers. Of these, 68% of contract teachers in basic public schools and 46% in secondary public schools are female. The Sudanese educational system cannot function without contract teachers; however, this situation limits the perspective on improving the professionalism of teachers in the country.

As teachers are mostly public servants in Sudan, teacher policy is a main function of federal, state and local governments. The following sections point out inadequate policies for 1) distribution, 2) utilization and 3) career opportunities.

Distribution

The distribution of teachers across schools and grades is uneven, with some schools experiencing a shortage of teachers while other schools have too many teachers. Due to the drop-out of students in all grades, there are considerably more students in the lower classes than in the higher grades.

Teachers are unevenly distributed across schools. A comparison of the need for teachers, based on pupil numbers, with the supply of teachers in each school reveals a low correlation, characterized by a “degree of randomness” in teacher deployment (FMoGE, 2015a). Teacher distribution is also uneven across states, with, for example, very high randomness scores in Khartoum State and relatively low scores in Red Sea. While the job market for teachers is attracting a large number of qualified persons to teaching – in 2011, Khartoum State had around 7,000 applications, with 4,000 candidates completing the test, for some 1,400 posts, and in Al Jazirah about 21,000 candidates applied for 1,600 positions – the regulations and incentives currently in place are not functioning to promote efficient teacher deployment across Sudan. Two policies may have some impact on teacher distribution: 1) a policy that deploys female teachers close to their spouses (most teachers are female); and 2) incentives (financial or otherwise) provided by the government to work in rural or remote schools and some underprivileged states (FMoGE, 2015a).

Sudanese teachers have been trying for several years to obtain the same social benefits as other civil service categories. If the financial difficulties faced by the government mean that such an objective is currently unattainable, it is pertinent to emphasize the importance of applying certain specific policies, such as the policy of bringing teacher couples together (*lam echaml* in Arabic), which allow a more appropriate distribution of teachers across the country.

The lack of appropriate facilities hinders teacher motivation. Poor school environments and a lack of resources have discouraged teachers from remaining for a long period in the same school. Frequent transfer of teachers to other schools does

not help retention. When teachers live permanently and for a long time in the same locality as the school, they are more committed to the children than teachers who commute, and they can build relationships of trust with parents (EU et al., 2012).

Utilization

Teacher utilization is relatively inefficient in Sudan, with a basic-education student-teacher ratio (STR) of 34:1 and an average class size of 48. This gap implies that almost one-third of teachers in basic education are not in front of a class (FMoGE, 2015a). Since teachers may work as subject specialists in Sudan from Grade 3, STRs are not an appropriate indicator of teachers' presence in classrooms.

The average STR for pre-school is 85:1 for northern Sudan,⁷ though the variation across states is extremely large, ranging from 18:1 in Northern State to 198:1 in Red Sea. High STRs explain the reliance of pre-schools on national service and volunteer staff, both of which account for a third of all education staff within this subsector. For secondary education, the average STR is 16:1 for both the academic and the technical tracks, with a small degree of variation across states (World Bank, 2012). STR is not the same as class size. The relationship between STR and average class size is affected by many factors including the number of classes or students for whom a teacher is responsible, the number of hours that a student attends class each day, the length of a teacher's working day, the division of a teacher's time between instruction and non-instructional activities (planning or preparing instruction), and whether a school runs multiple shifts with the same teachers.

The average class size for basic education in northern Sudan is approximately 48 students per class, according to the FMoGE 2008–09 statistical yearbooks. Available empirical studies show that class sizes within the range of thirty to sixty students per teacher have a relatively equal level of student learning. Classes with fewer than thirty students do tend to produce better learning outcomes, but such small class sizes are uncommon and financially unsustainable in most countries in sub-Saharan Africa. Class sizes above sixty students, however, tend to have a negative impact on student learning (World Bank, 2012).

Class sizes for basic education vary according to school type and grade. Schools for IDPs have an average of ninety-two students per class, whereas village schools and nomadic schools have an average of thirty and thirty-three students, respectively. The average class size also decreases in the higher grades, except in IDP and village schools. Within small schools, such as village and nomadic schools, which have correspondingly small class sizes, the practice of subject specialization by teachers is inefficient, and in many cases it may not be possible given the potentially insufficient

7 The figures are prior to the secession of South Sudan in 2011.

numbers of teachers in those schools. In order to deal with this issue, village and nomadic schools are mostly multigrade, which means that teachers require special skill sets and different teaching materials. Additional or differentiated training for teachers who work within nomadic and village schools is needed. In addition to STR and class size, instructional time is an indicator giving us a picture of teacher utilization. The official instructional time for basic and secondary students is twenty-five hours per week. Given that the official number of school days in the academic year is 210 in northern Sudan, this information can be translated into approximately 1,050 hours of intended instructional time for basic- and secondary-education students per year. However, actual instructional time is significantly less than the official number of hours. The average weekly number of instructional hours by teachers is 17 for northern Sudan, which translates into about 714 actual instructional hours annually. This figure means that students receive an average of 336 hours less instructional time annually than what is officially sanctioned. There may be several reasons for this loss in actual instructional time, such as school closures because of weather conditions, which is common during the rainy and extremely hot seasons in parts of Sudan, as well as teacher absenteeism, in-service teacher training, strikes, conflict or the use of schools as polling stations (World Bank, 2012).

In Sudan, basic-education teachers for Grade 4 and above are required to be subject teachers. This has an impact on teacher training and deployment and explains why some schools appear to have rather more teachers than would be required if Grades 4–6 were taught by class teachers rather than subject teachers. The requirement for specific subject specialization appears to be putting an additional strain on teacher deployment. It was observed that there is often a mismatch between the subjects teachers studied during their undergraduate degree and in-service teacher training courses, and their teaching subject in school (EU et al., 2012).

Given the shortage of teachers in some regions of Sudan, it seems curious that the country maintains the requirement of subject teachers starting from Grade 4.

Career opportunities

The recruitment and transfer of teachers for secondary education is the responsibility of the state government. However, these tasks for basic education are the responsibility of either the state or the local government, and the decision depends on the capacity of the local government as well the state's willingness to devolve responsibility to the locality. The recruitment of volunteer teachers is the responsibility of the education council, because the council covers the costs for these teachers (World Bank, 2012).

The link between the number of students and the number of teachers in schools is weak, which indicates that factors other than student enrolment influence teacher deployment. One would expect that as the number of students in a school increases,

so too would the number of teachers. However, this is not always the case in northern Sudan. For example, the number of teachers at schools with about 450 students ranges from 5 to 33 (World Bank, 2012). The number of students enrolled in schools that employ 10 teachers ranges from fewer than 100 to more than 1,200. Khartoum State has the greatest variation in the deployment of teachers, which means that there is a very weak correlation between the number of teachers deployed in a school and the number of students enrolled. This is often the case in capital cities, where there is generally an oversupply of teachers because of their preference to work in urban areas.

Sudan is among the weakest compared with other countries in the region with regard to effectively deploying teachers according to student enrolment. Whereas 49% of northern Sudan's teachers are deployed based on factors other than student enrolment, countries such as Mozambique, Senegal and Zambia are doing much better, with less than 20% of teachers so deployed. In northern Sudan, the following structural factors influence the deployment of teachers:

- **Subject specialization:** Teachers are required to specialize in a particular subject from Grade 4 onwards. This specialization means that instead of having one teacher who covers all subjects, students have different teachers for each subject. Teachers are therefore deployed partly based on the needs of a school for subject specialists.
- **Family status and living conditions:** Female teachers are required to be posted close to their spouses; therefore, their deployment is based on where their spouse lives. Further, women will be posted to rural areas only if there are adequate accommodations. Given that 67% of teachers in basic-education schools are women, these two criteria create a significant bottleneck in deploying teachers to rural areas.
- **Health status:** Teachers can request to be posted near a functioning health facility if they suffer from hypertension or diabetes or if they are pregnant. Depending on the severity of the condition, this criterion may also favour deployment of teachers to urban areas, where health services are more readily available or of higher perceived quality.

Career opportunities for teachers are limited in Sudan. This fact may explain the high rate of teachers' migration abroad, particularly to the Gulf States. Improving the financial status of teachers and raising the age of retirement to 65 years to take advantage of their expertise may be one way to tackle teacher migration (FMOGE, 2012).

The average annual salary for government teachers in 2009 was SDG 5,300 for pre-school, SDG 6,700 for basic education, SDG 8,200 for secondary school and SDG

5,150 for literacy programmes. Most regular teachers were paid their full salaries in the month preceding the survey. However, large gaps exist between states: in Kassala and River Nile, 94% and 96% of regular teachers, respectively, received their full salaries. However, only 47% of regular teachers in North Kordofan received their full salaries in the month preceding the survey (World Bank, 2012). Payments for part-time and volunteer teachers do not seem to be as consistent as payments for regular teachers, with volunteers having the worst situation. This could be because part-time and volunteer teachers generally rely on communities for their payments, whereas regular teacher salaries are funded by the government.

Between 6% and 20% of regular teachers have other jobs or provide private tutoring to students, indicating a need for supplementary income. As expected, compared with regular teachers, a greater number of volunteer and part-time teachers have other jobs to supplement their incomes. Although the study did not ascertain the types of jobs teachers are undertaking outside of school or the amount of income earned through these sources, the data suggest that some teachers are seeking to supplement their salaries.

The Teachers' Association is implementing diversified activities to increase its own funds and to assist retired teachers. It is worth noting the contribution of the ultra-modern medical clinic recently opened in Khartoum by the Teachers' Association.

Senior teachers spend less time teaching compared with junior teachers. Teachers at the highest salary scales are expected to teach about 5 hours per week, whereas teachers at the lowest salary scales are expected to teach about 25 hours per week. Senior teachers are expected to do administrative and managerial work so as to balance their time. Given that teachers on higher salary scales are presumably more experienced and that more experienced teachers teach fewer hours, it follows that less experienced teachers tend to teach the lower basic-education grades (Grades 1–3) because there is one teacher per class for the entire day (World Bank, 2012).

■ Discussion

Although classes are overcrowded and many children are out of school, field visits have shown that teachers in Sudan are underutilized. This underutilization is linked to two phenomena. First, no teaching takes place after 2.00 p.m. in school facilities. Second, during their presence at school, teachers are not always in class. A gap exists between the number of teachers present at school and the number of teachers in classrooms. A reflection on the extension of teaching time coupled with a reorganization of work time would allow both the accommodation of more pupils in

schools and a reduction in the number of pupils per class, especially at the beginning of primary school. Indeed, overcrowded classrooms were pointed out by teachers and principals as one of the most urgent problems facing Sudan's education system.

Improving teacher allocation, utilization and career opportunities are not simple challenges to address, especially in a new federal system where teachers are employed at decentralized levels by states and localities. The FMoGE lacks an available database on teacher training, deployment and utilization to monitor state performance in relation to national norms and standards. Policies, procedures and management steps can be put in place to improve teacher deployment and utilization (FMoGE, 2015a). States and local authorities need capacity development to address the management, deployment and utilization of teachers.

The decentralization of recruitment and transfer decisions to the state and local levels makes the deployment of teachers across states difficult to implement in Sudan. This is because the federal level is not part of the informal review meetings of the committees at the state level, so there is no formal mechanism to coordinate transfers and recruitment across states (World Bank, 2012). There is a major discrepancy in the deployment and utilization of teachers, with very low STRs in some urban and remote communities, and some very high ratios in other schools. Distribution of teachers by qualification reveals an even starker picture, with many schools in more remote or hard-to-reach areas having no qualified teachers, while urban areas tend to attract the most qualified teachers (FMoGE, 2015a).

The actual experience in Kordofan State, which consisted of selecting teachers from the beginning of their initial training by awarding them a scholarship and ensuring that they work in the state's education system, is conclusive: this policy contributed to lowering teacher shortage. The principle of its extension to the other states in Sudan has been retained by the federal government. It is important to diversify the measures aimed at improving the distribution of teachers and addressing the teacher shortage in some parts of Sudan. There is a need for incentives but also for firmer controls on teacher appointments and more restricted access to management positions by experienced teachers.

Teachers need to be trained to implement student-centred instruction methods, but only after the correct incentive structures and infrastructures are in place. Teachers must be given the required resources to follow through with the reform efforts. Teachers already feel, as the field visits showed, underpaid and overworked.

■ Policy recommendations

Recommendation 1: Improve the distribution of teachers at the national, regional and local levels

The policy of decentralization relates to the evolution of Sudanese society towards a more participatory and democratic model of governance, taking into account regional specificities. Nevertheless, it seems that states and localities have not been sufficiently prepared for their new responsibilities in education management. For this reason, it is necessary to improve the deployment of teachers and to ensure that the most qualified teachers are not in administrative positions but in classrooms. The improvement of teacher distribution may be reached through: strictly monitoring student–teacher ratios across all schools, lowering teacher absenteeism and recycling subject teachers to allow them to teach in lower grades.

Recommendation 2: Launch of affirmative action approaches for underprivileged regions

Disadvantaged regions in Sudan have lacked quality teachers for decades. It is therefore relevant to put in place positive discrimination policies (better wages and working conditions) for teachers who agree to work in peripheral states and remote regions.

Policy Issue 4: Weak impact of teacher work on learning outcomes

■ Evidence

Studies on student learning outcomes in Sudan show weak results. In 2009, the World Bank carried out a student learning assessment in mathematics and reading for Grade 4 students. The tests comprised items selected from the 1995 and 2003 TIMSS learning assessment and the 1991 and 2001 PIRLS. The average student in the sample answered 34% of the mathematics questions and 39% of the reading questions correctly. Approximately 84% of students answered fewer than half the mathematics questions correctly and 72% answered fewer than half the reading questions correctly (World Bank, 2012). Another World Bank study was undertaken in 2010. The study found that the average student in Grade 5 answered just over one-quarter of the questions correctly (28%). This was considered very low, particularly since it was a multiple-choice test. Around 81% of rural students answered one-third or fewer of the mathematics questions correctly, compared to 76% of urban students. Further highlighting the overall weak student performance and the rural–urban divide, 5% of urban students answered half or more of the questions correctly, but less than 2% of rural students did the same (FMoGE, 2015b).

The performance of teachers is one of the most important determinants of student learning outcomes. Research shows that students with better teachers consistently achieve better learning outcomes. The effective functioning of the system for managing teachers in terms of recruitment, deployment, utilization, remuneration and supervision is critical to the efficiency and performance of the education sector (World Bank, 2012). It is relevant to strengthen the knowledge and skills of teachers to enable them to better guide parents in supporting the schooling of their children. As suggested by EU et al. (2012), teachers' skills for communicating with parents on child performance and on drop-out-related issues are weak. Except for incidental meetings with parents on student performance, there is in general no professional interaction between teachers and parents. The teacher training curriculum does not have a syllabus on communication with parents on children's behaviour and performance generally, let alone on the phenomenon of drop-out specifically.

Limited involvement of teachers in building a national capacity for curriculum development

The NCCER changes and adapts educational content in collaboration with university teachers, scientific institutions and education experts. The centre develops the curricula according to national policy, trains and qualifies education professionals to carry out research, and promotes relations with educational institutions and research centres. The centre also prepares detailed plans of school programmes, develops textbooks and teacher guides, appoints and supervises textbook writing committees, prepares legislation for organizing the curricula and examinations at all levels of education, and determines achievement levels by reviewing school examinations (IBE-UNESCO, 2012).

The NCCER, which is responsible for all aspects of developing and supporting the national curriculum framework for basic and secondary education, has made progress in developing guidance for teachers and textbooks for students for the new curriculum, but much work remains to be done in this area. A critical element of curriculum policy for review must be the impact of the medium of instruction on learning, and an exploration of creative approaches to addressing the issue, especially in displaced communities where students' mother tongue may vary substantially (FMoGE, 2015a). Curriculum renewal will involve intensive and ongoing consultations with stakeholders – especially teachers, unions and faculties of education – to ensure that changes to the curriculum reflect social aspirations, national and local needs and priorities, and the capacity of teachers. Interviews

with teachers during field visits suggest a lack of consistent teacher participation in curriculum reform and even a lack of knowledge about curriculum orientations and reforms. Teachers observed that both teachers and students have constant difficulties understanding the new curriculum.

Teacher supervision as a tool to improve learning outcomes

Management control and oversight are necessary to establish accountability by teachers and thereby improve their performance. Real accountability hinges on having well-defined standards and adequate information about performance in education provision to enable policy-makers and programme administrators to improve service delivery. In Sudan, the ratio of regular teachers to inspectors is 36:1 for basic education and 41:1 for secondary education. Teachers are supervised by head teachers, education councils and local or state (depending on the available capacity) inspectors. Supervision by local or state inspectors is the main avenue for promoting or disciplining teachers, although the inspectors seek input from head teachers in their reports. The inspectors are former teachers, often approaching retirement age, who are attached to state or local education units; where administration units exist, some inspectors are organizationally located at that level. Across states in both basic and secondary education, teachers are supposed to be monitored two to four times per year by the state or local inspector. Inspectors supervise the performance only of regular teachers, whereas volunteer or national service and part-time teachers are generally supervised by the education councils, which use different standards. This divide is of particular concern in pre-schools, where more than a third of teachers are volunteers or national service staff. The majority of teachers in the service delivery survey were regularly monitored by inspectors during the course of the year (World Bank, 2012).

Taking into account the distance between home language and language of instruction

As the recent PASEC (CONFEMEN Programme for the Analysis of Education Systems) (2015) report shows, the distance between home language and language of instruction is one of the main factors explaining the lack of better learning outcomes in Africa. In Sudan, although Arabic is a familiar language for most children (used in mosques, the media and other social settings), the different dialects of Sudanese Arabic practised by children before entering school make it difficult for some students to learn in standard Arabic. In addition, some children speak a tribal or local language different from Arabic at home. As a result, young children cannot speak or understand Arabic when they enter school:

Often the teacher of Grade 1 does not speak the tribal language, and since the textbooks are written in Arabic, the communication between teachers and students is often constrained and the comprehension of the schoolbooks by students is limited. In general, this is more the case for girls than for boys. This may be explained by the fact that boys are freer to move around in the village at a young age and therefore have more possibilities to pick up Arabic from other people. So many non-Arabic-speaking children fall behind at school right from the first day and as a result their literacy skills remain weak. When, after a number of years, they are still not able to read and write Arabic, they have a high chance of becoming less motivated for going to school, which may result in dropping out. It should be noted that the possibility of using the local language of the learner in the education system is not debated at any level currently. (EU et al., 2012, p. 115)

Pedagogical renovation and ban of physical punishment

A recent study funded by the EU observed that teachers are sometimes absent, schools tend to start late, breakfast breaks in school often exceed the fixed duration, and schools often end before the official school day ends, thus reducing the effective teaching time considerably. These are signs of poor-quality teaching and weak school management. Despite the fact that the majority of the teachers in the study were trained, the quality of teaching was limited as demonstrated by strict use of textbooks, very limited enrichment and little focus on active learning by students (EU et al., 2012).

Although many teachers have heard of child-centred teaching in initial or in-service training, the locus of control in lessons remains almost entirely with the teacher. The teacher acts as the main source of knowledge, and teaching methods are strongly didactic and invariably teacher-centred. Teaching is almost uniform in the use of a teacher-centred presentation and practice model. Most teaching is limited to covering the material in the textbooks (EU et al., 2012).

Elbla (2012) points out the fact that some teachers know punishment has a negative impact on pupils' behaviour and personality but feel there are no other alternatives they can follow; other teachers believe that they punish their pupils due to the stress and frustration they experience. School environments are poor and lacking facilities that might be useful for modelling pupils' behaviour and absorbing the unwanted behaviours. Pupils, on the other hand, see no justification for their teachers to hit, kick or slap them or call them names. Some of the pupils indicated that they have developed feelings of fear, frustration, aggression, low self-esteem and low confidence and that they lacked motivation for learning as a result of the continuous punishment.

■ Discussion

To improve learning outcomes, four policies may be implemented in Sudan: 1) more involvement of teachers in building a national capacity for curriculum development, 2) teacher supervision as a tool to improve learning outcomes, 3) taking into account the distance between home language and language of instruction and 4) pedagogical renovation and ban of physical punishment. A systemic approach to teacher education is required if teachers are to develop and maintain the necessary skills to ensure effective learning outcomes in classrooms.

To improve learning outcomes, it is important to shift in Sudan from teacher/teaching-centred pedagogy to student/learning-centred pedagogy. Such a change requires training and supervision for teachers. It requires also an intensive training of inspectors in innovative pedagogical approaches.

It is general practice in Sudan for untrained teachers or national service volunteers to work in the lower grades where quality is important for acquiring basic literacy skills. These are also the classes with a high STR. It is obvious that children in these classes are getting little attention, learning constraints are not noticed and the social relationship with the teacher is limited. In short, untrained teachers and overcrowded classes have a very negative effect on learning and subsequently on the timely acquirement of literacy skills (EU et al., 2012).

One of the interesting initiatives to improve teacher's competencies in more innovative pedagogies is the programme launched in 2011 by the British Council in Khartoum State and extended one year later to include an additional eight states. In partnership with the FMOGE, British Council is currently running teacher training courses across Sudan to improve access to quality English language learning for all students. The programme aims to give teachers access to up-to-date teaching methodologies, improve their English and build their capacity so that they can better teach students for years to come. The programme is seen as particularly appropriate for the teachers' training needs as it combines a strong focus on language revision and awareness with activities and classroom ideas that promote a far more communicative approach to teaching.

Corporal punishment is a negative practice for learning. Corporal punishment still occurs in basic schools in Sudan in spite of the federal government's Child Act of 2010, which prohibits "cruel penalties" in school (Article 29). The act does not explicitly prohibit corporal punishment, so it is still a matter of interpretation by teachers. States and localities need to explicitly prohibit corporal punishment in schools and supervise the application of this policy.

■ Policy recommendations

Recommendation 1: Better involvement of teachers in curriculum design and policies

Efforts have been made in Sudan to reform the curriculum. Nevertheless, it is important to increase teachers' involvement in curricular choices. With respect for the political choice that has been made to entrust curricular orientations to a federal body, it nevertheless would be useful to explore the possibility of adapting the curriculum to regional contexts.

Recommendation 2: Pedagogical reforms

The education system's reliance in Sudan on memorization as a primary learning method even when it comes to subjects like mathematics or sciences, where analytical skills and competencies are required, is a significant challenge to overcome. Thus it is important to impact the pedagogical orientations of teachers (both in-service and pre-service) by shifting from a teaching/curriculum-centred approach to a learning/student-centred approach. Compared to other African countries, the reasonable number of students per classroom in Sudan, particularly in higher grades, allows some possibilities to build more active pedagogies.

Policy Issue 5: Lack of specific policy for teachers working in conflict and refugee areas

■ Evidence

Teachers working in rural, nomadic and IDP schools do not receive any additional benefits from the government. Communities in some rural schools provide additional incentives (either in cash or in kind) for teachers to attract them to those areas. This means that the poorest rural communities cannot compete with other, more wealthy rural communities that offer a better standard of living (World Bank, 2012).

Although financial incentives may influence teacher performance and thus student learning, there are other, non-financial incentives that can be used to attract experienced and qualified teachers. For example, teachers may exert more effort if doing so improves their standing in the local community (World Bank, 2012).

Nomadic education

The nomadic education experience has been evaluated many times in Sudan. According to the FMOGE and UNICEF (2013), the following lessons may be drawn from these evaluations:

- Consciousness-raising and mobilization towards the importance of children's education are needed among nomadic communities.
- Not all nomadic communities are moving; in many cases only young men accompany their herds during the dry season while families and children remain settled for at least six months.
- The current multigrade and mobile schooling approaches do not adequately cater to the diverse needs and lifestyles of nomadic communities.
- Nomadic people continue to discourage the education of girls.
- About 36.7% of nomadic teachers are not trained, and 35% of them complain about the lack of a teacher's guide.

Refugee education

Through collaboration between the FMoGE, the Office of the Commissioner of Refugee Affairs, the UNHCR, UN agencies, international organizations and civil society organizations, a committee was formed to monitor the challenges facing the education of refugees, assess the current reality, and outline and support a national strategy on the issue of refugee education paths in Sudan.

The education response aims to ensure children in conflict- and disaster-affected areas have access to learning and recreational activities. Areas affected by new and protracted displacement and by climate hazards need to be targeted. In particular, the sector aims to restore access to education for newly displaced communities while maintaining education support for the protracted caseload. Improving existing learning structures will be prioritized where facilities are already overstretched as a result of new arrivals. Where no suitable structures for learning and teaching exist, temporary learning structures will be established, with consideration for protection issues. Ensuring safety, dignity and meaningful access in terms of distance, location and design of education facilities will be prioritized (UNOCHA, 2016).

By training more female teachers and including more women in parent-teacher associations (PTAs), partners will work towards achieving gender parity. PTAs, as community representatives, will be consulted throughout all phases of the Education in Emergencies response (UNOCHA, 2016).

■ Discussion

Ensuring education access for high-priority groups by establishing boarding facilities for students and housing for teachers in remote rural and nomadic schools is an appropriate policy. The secondary-education policy and strategic plan identified

these approaches as two high-priority and high-impact interventions to meet the national policy of expanding access for girls and children in rural and remote areas where it is not cost-effective to build secondary schools, or where it is difficult to attract qualified teachers.

The experience of Al-Massar Charity Organization for Nomads is relevant in thinking about specific policies for teachers in nomadic regions of Sudan. Al-Massar is a non-governmental, non-political and non-profit organization established in 2000 to assist the nomads and pastoralists of Sudan in achieving sustainable development and in increasing enrolment and retention of nomadic children in basic education. The marginalized nature of nomads affects the provision of basic services, especially education. Al-Massar's interventions seek to provide education to those communities without affecting their special nature by providing mobile schools, building education compounds in their *damras* (settlements) and advocating for their education rights at all administrative levels.

Integration of refugees in regular classes is possible, as illustrated by the reported experience of eastern Sudan, where refugees' mother tongues have been adopted along with Arabic as languages of instruction. Teachers of refugees can also receive training to enable them to take into account refugees' mother tongues.

■ Policy recommendations

Recommendation 1: Develop a national strategy for teachers in conflict and refugee areas

The education of refugee children and children living in conflict regions deserves special attention with regard to teacher policy, not only because the number of children at risk is high in Sudan but also because improving the quality of education offered to these children can help reduce the intensity of conflicts and give some hope to the communities most excluded from education and development.

Summary

The following table summarizes the policy issues and corresponding recommendations discussed in this chapter.

Table 20: Policy issues and recommendations related to teacher policies and development

Policy Issues	Policy Recommendations
TP 1. Inadequate administrative, institutional and statistical structure to deal with teacher policy	1.1 Develop a national statistical system allowing effective knowledge of teachers at the national level and in the governorates. 1.2 Build a national strategy for teacher policy.
TP 2. Weak/insufficient articulation between pre-service and in-service training and professional development	2.1 Develop a systemic approach to teacher education (pre-service/in-service/professional development). 2.2 Improve the selection, competencies and skills of students enrolled in teacher education programmes.
TP 3. Inadequate policies for distribution, utilization and career opportunities	3.1 Improve the distribution of teachers at the national, regional and local levels. 3.2 Launch affirmative action approaches for underprivileged regions and improve working conditions in remote areas.
TP 4. Weak impact of teacher work on learning outcomes	4.1 Increase involvement of teachers in curriculum design and policies. 4.2 Implement pedagogical reforms to shift from curriculum-centred to student-centred learning.
TP 5. Lack of specific policy for teachers working in conflict and refugee areas	5.1 Develop a national strategy for teachers in conflict and refugee areas.

■ Chapter 3: Out-of-school children and literacy policy

SECTION 1: INTRODUCTION

The mission specifically reviewed policies aimed at reducing the prevalence of out-of-school children and adult illiteracy. While each of these topics has its own set of issues, they are closely related – not least because in the Sudanese context, adult illiteracy is not a ‘legacy’ problem but is deeply-rooted and reflects the accumulation of past and present problems in educational access. In other words, adult illiteracy is continuously reproduced by the gaps in coverage in basic education, with almost a third of primary-school-age children out of school according to both administrative (UNESCO and FMoGE, 2016) and survey data (World Bank, 2012), a share that has not seen much decline in the recent past. Today’s out-of-school children are tomorrow’s illiterate adults, and increasing school participation is the single most critical factor in reducing illiteracy in the long run.

A review of background documents and stakeholder interviews during the two missions shows that – as in the education system overall – policies in these areas suffer from well-recognized data and resource limitations, as well as coordination challenges between the federal and state levels. The institutional arrangements are reviewed in greater detail in Chapter 4 of this document. In general terms, national policy, strategic planning and curriculum design are performed at the federal level; the SMOGEs, with the full ministry structure replicated in each state, are in charge of concrete planning (e.g. teacher deployment); and localities are in charge of operational implementation. While the NCLAE represents a distinct entity at the national level, its state-level subsidiaries are effectively integrated into the SMOGEs.

Public spending on education, in relation to both GDP and total public expenditure, is at the low end in international comparison. This contrasts with a larger-than-average share of the child population and an urgent need to ‘catch up’ with global and regional trends in educational participation. Consequently, education spending needs to be raised significantly (FMoGE, 2012). At the individual level, the main obstacles are unsurprising and well known in principle: large distances to the nearest school in many rural areas, traditional attitudes unsupportive of girls’ schooling, poverty that makes both the direct costs of school attendance (fees, transportation, materials, etc.) and opportunity cost unaffordable, and insecurity/displacement (World Bank, 2012). Supply constraints play a larger role than demand constraints,

both according to the 2008 Baseline Survey (FMoGE, 2008) and consistent with the findings of the field visits.

SECTION 2: POLICY FINDINGS

Policy Issue 1: Resourcing, distributional equity and efficiency

A substantial reduction in the number of out-of-school children and illiterate adults within the next decade necessitates a major increase in the overall volume of resources committed to the education sector. Some of this funding will have to go towards new strategic initiatives; however, there is no plausible pathway to scaling up the existing education structures at the pace required to reach all current out-of-school children or all illiterate adults by 2030. These existing structures privilege intensive offerings and demands on those who are already inside the system over extensive efforts to reach out to the entire target population.

■ Evidence

With respect to all relevant indicators, the resources committed to education in Sudan fall far short of both international normative benchmarks and de facto regional averages. This concerns education spending as a share of GDP, education spending as a share of overall public expenditure, and per-student spending in formal and non-formal settings.

Current levels of funding are also incompatible with stated domestic policy goals. Even at current per-student expenditure, which is itself too low to ensure good quality, universal successful participation at the basic level would necessitate a large increase in spending. This figure is likely to be an underestimate for numerous reasons. For example, it ignores the need to raise quality to increase demand for schooling, the higher-than-average cost of reaching the most marginalized populations, and the knock-on effect of increased demand for secondary schooling.

The inadequacy of current levels of funding is well recognized by stakeholders within the education sector who were consulted during the missions. Planners and policy-makers are limited in their scope of action, and school leaders report that they rely on raising extra funds from the community to cover routine recurrent operating expenses, for example.

Due to the magnitude of the challenge and continued rapid population growth, current plans for scaling up the existing education provision cannot plausibly reach

all children currently out of school or all illiterate adults by 2030. Estimates of around 2.5 million out-of-school children and 7 to 10 million illiterate adults (depending on the estimate) stand in relation to enrolments in literacy and adult education of around 200,000 to 400,000 (UNESCO and FMoGE, 2016). An aspiration to pragmatically meet the fundamental educational rights of as many of these groups as possible is relatively underemphasized in current policy. Greater priority was given in stakeholder interviews to the honourable ambition to provide those who are participating in the education system with the best programmes possible given the constraints, and to enable them to achieve demanding learning outcomes (as evident in the literacy textbooks, for example). Meeting the aspirations of stakeholders calls for new approaches to meet the needs of the target populations and of modern life.

The ongoing curriculum reform in the context of the restructuring of basic education along a model of 6+3 grades is a case in point. It is an education policy largely motivated by the legitimate goal of pursuing what is best for children who are in school, but at the risk of neglecting those children who are out of school. According to mission findings, the new curriculum appears to be carefully sequenced, integrating content across grades according to considerations based on good pedagogical practice and curriculum design. However, it is designed around the progression of an idealized standard student. As a result, it may not facilitate the successful completion of non-standard pathways through the education system in the present imperfect reality where large shares of children enter school with substantial delays (World Bank, 2012), or enter directly into advanced grades after completing alternative or non-formal programmes, for example.

In the realm of literacy and adult education, there is additional evidence that ‘high-stakes’ adult literacy programmes that require an intense time commitment (according to the NCLAE curriculum) are at odds with individuals’ ongoing lives, especially for the poor. Accordingly, they are effectively forced to choose between committing to an ambitious programme aimed at imparting literary language, or nothing. Absent is a more pragmatic intermediate option aimed at a lower, but functional, level of literacy that can in turn be acquired more robustly and flexibly.

■ Discussion

While discussions can be had about the efficiency of current education spending, the plain need for additional resources dwarves any potential gains from improved efficiency. Similarly, there is a clear gap in demand for schooling among some communities and families, especially with respect to girls; nevertheless, any lack in enthusiasm for schooling merely exacerbates, and is partly caused by, binding constraints on school supply, quality and accessibility. Making community initiative a precondition for public education provision frustrates and further disadvantages

those individuals who do crave educational opportunities but live in communities with low overall enthusiasm for schooling. It is likely that any increase in supply can expect to be met with corresponding demand, with a few notable exceptions (such as the question of schooling for nomadic populations).

Arguably, current levels of spending are so low as to trigger additional negative feedback. Chronic underfunding creates not only inequities but also inefficiencies. Core functions of the education sector are forced into permanent competition for scarce resources. In addition, when even mandatory functions are underfunded, little room remains for strategic choices in spending. Also, demonstrating a reasonable domestic effort and commitment to mobilizing resources for education increases the likelihood of obtaining international assistance for bridging any remaining gaps.

Apart from the rights perspective, well-planned spending on education is expected to be a very good investment in the medium to long term. Even the costs of an ambitious investment programme at the scale required for universal participation in free basic education would likely be outweighed by the benefits. Among others, these include more manageable population growth and lower health-related costs and losses. In addition to direct benefits, lower levels of illiteracy in the population promise the indirect benefit of making interventions in other sectors more effective.

Currently, a combination of 1) ambitious offerings and demands on participants inside the education system (both formal and non-formal), 2) the lack of a plausible pathway to scaling this system up sufficiently and 3) the targeting of alternative forms of education exclusively at 'special' groups (conflict-affected, nomadic) results in practically no educational provision at all for the large number of children who are not (or are no longer) attending school for commonplace reasons, such as a large distance to the nearest school, poverty, and so on.

Arguably, the example of education for nomadic populations provides evidence of political willingness to adapt the standards of regular formal schooling, so that nomadic children can benefit from compromised schooling instead of receiving none at all. In nomadic schools, the compromise involves a condensed curriculum and lower standards for teacher qualifications and training (FMoGE and UNICEF, 2013; stakeholder interviews). It is not clear why children who are not members of 'special' groups, but are nonetheless underserved by schooling, should not similarly benefit from a more pragmatic approach to scaling up provision at an accelerated rate. For example, similar models of promoting community schooling to fill gaps in general provision played a critical role in India's progress towards universal primary schooling (Bangay and Latham, 2013; Leclercq, 2003).

Similarly, a rigid interpretation of the statutory age threshold for entry into Grade 1 (as voiced during stakeholder interviews) is not only at odds with the reality of incomplete birth registration and age uncertainty (see the analysis of the 2008 Census by the World Bank, 2012) but also with the fact that a majority of children do not in fact enter school at the standard age of 6. It may be counterproductive to immediately categorize all such children as requiring alternative remedial educational programmes.

In general, one concern with alternative arrangements that do not meet the standards of the formal school system is that they become permanently institutionalized. As a parallel, substandard system for disadvantaged segments of the population, they reduce the pressure to expand the provision of regular formal schools. However, given the large number of Sudanese children not reached under current arrangements, the risk of alternative provision ‘crowding out’ formal schooling or slowing down its expansion (criticisms raised in the Indian context by Nambissan, 1996, and Tilak, 2007, for example) appears to be a small risk. This question could be carefully monitored rather than seen as a categorical objection.

■ Policy recommendations

Recommendation 1: Substantially increase public resource commitments to education to meet international benchmarks (including for non-formal education)

(a) National

There is clearly an urgent need to meet the 6% of GDP target to education, and to fund non-formal education in proportion to the target population instead of those enrolled. Some guidance on specific priority areas for additional spending is mentioned further below. However, in general, this recommendation is made without prejudice as to whether additional resources should go towards classroom construction, hiring teachers, or providing textbooks and other materials, in order to have the greatest impact. These are important questions that will need to be debated by national stakeholders. However, they are secondary to the primary decision of increasing educational spending overall.

An important exercise to highlight the current funding shortfall would be to calculate educational budget *needs* for decision-makers’ reference. To begin with, such demand-based budgets could be directly proportional to the size of the target population. The target population for this purpose needs to be understood as the number of children of school age, not the number of current enrolments. It is well understood that under current federal budgeting procedures, such illustrative budget

requests, will not directly affect allocations. Nevertheless, they may serve to lay the ground for more transparent and reliable formula-based budget allocations to education in the future.

(b) Donors

Meeting international benchmarks for the commitment of domestic resources also serves to increase the chances of attracting donor support for closing the remaining gap. However, depending on the donor/programme, only specific geographic areas and/or subpopulations may be eligible, rather than national institutions or initiatives. Accordingly, procedures should be adopted to facilitate the access of local non-formal education programmes to donor support, at the level of information-sharing, networking, building capacity for funding applications and so on.

Recommendation 2: Integrate non-formal education for primary-school-age children within the strategy for formal basic schooling

A multipronged approach to school delivery could be applied to reaching all children, not just special groups such as nomads or those in conflict-affected regions. In order to be able to offer all children an opportunity to participate in formal schooling within the next ten years, serious consideration should be given to the establishment of community schools in villages that are without a school of their own and that are denied access to a school nearby.

Similar to existing schemes for nomadic education and village schools, such a scheme would consist of the community providing a classroom and the formal education sector ideally deploying a trained teacher. Where no trained teacher can be recruited, some training and a salary would be provided to an educated community member to teach. These community schools would replace the current literacy classes for the age group 7–9 and potentially even 10–14. The existing literacy programmes assume students do not have time to attend school full-time, which may be incorrect where non-attendance is due to a lack of school supply. By contrast, community schools would offer several hours of instruction per day, with the aim of covering the entire core primary curriculum. In addition to increased instruction, it would be an important signal that all children fall under the remit of formal education by default, with non-formal literacy classes as the exception for school-age children.

Recommendation 3: Consider flexible school entry phase

A formally rigid age threshold for entry into formal schooling is at odds with the reality of incomplete birth registration, age uncertainty, and widespread delayed entry. Instead of stigmatizing those who do not manage to enter at the statutory entry age, consideration should be given, at least in regions with a high prevalence of out-

of-school children, and at least temporarily, to officially combining a flexible entry age with a multi-age introduction grade. In other words, instead of Grades 1 and 2, students would enter the introduction grade at age 6 or 7 (or even 8), and remain there for between one and two (or even three) years before advancing to Grade 3, depending on their individual progress. Such an arrangement is by no means a sign of weak capacity to enforce the normative progression schedule but is actually the policy of choice for pedagogical reasons even in some high-income countries, such as Germany.

Recommendation 4: Establish transparent mechanisms for the establishment of formal and non-formal education sites, supported by building school mapping capacity

Both equity and efficiency are undermined by the current process for determining new school locations and sites for non-formal programmes targeting out-of-school children. Local demand and access to existing schools do enter the decision-making process but rather take the form of ad hoc negotiations. While case-by-case considerations are necessary, of course, it is recommended to establish clear guidelines for the establishment of education sites, and to advertise these. This concerns both the process of requesting a school (e.g. whom to approach with what information) and the criteria for evaluating the request (e.g. potential number of students, availability of a site).

In supporting an equitable distribution of resources, there is room for the application of a systematic analysis of the concrete geographic relationship between communities and existing and potential school sites and resources in the form of school mapping with the aid of Geographic Information Systems (GIS). Such an analysis provides a more complete picture of actual travel-time spatial imbalances in provision. While countrywide application currently seems out of reach, consideration should be given to the first steps in building technical capacity by mapping a small number of pilot areas in Khartoum State, for example.

Policy Issue 2: Address obstacles facing girls and other vulnerable groups

Despite recent improvements, as documented in the CBR, significant gender gaps remain in Sudan in educational participation and outcomes at all levels.

■ Evidence

In the most traditional communities, objections or at best indifference to girls' schooling remain widespread, even at the level of basic schooling. Early marriage is

a common custom in some regions, according to mission interviews. Stakeholders also point out, however, that early marriage is not necessarily motivated only by tradition, but partly driven by economic circumstance. Ministry staff confirmed during the mission that there are no legal or formal institutional barriers to the school participation of girls, including married girls with or without children. Girls do not in fact generally continue their education after marriage, but this is due to custom and social expectations rather than institutional rules. One relevant institutional aspect, however, is that education remains non-compulsory (UNESCO and FMoGE, 2016).

Both government officials and field agencies interviewed during the mission reported on reservations among some communities concerning the presence of male peers or teachers in classrooms. Increasing gender segregation at the school level is being encouraged as a matter of government policy, according to stakeholders within the administration and in schools, and external partners. This includes splitting existing co-educational institutions. The extent to which physical and logistical separation is reflected at the administrative level is ambiguous. Indeed, different reporting behaviour – in other words, whether single school premises that have been converted to one school for girls and one for boys are captured in data collection as one or two schools – has been identified as the main source of disagreement between conflicting reports on the total number of schools between the Rapid Survey and EMIS, according to mission findings.

■ Discussion

Raising the education of girls represents a particularly effective long-term development contribution, through subsequent positive effects on infant and child mortality, and the intergenerational transmission of human capital (Hannum and Buchmann, 2005; Cohen et al., 2006). Current low levels of female education in many communities therefore contribute to a vicious circle of low development.

While the overall prevalence of child marriage in Sudan at around one in three women is close to the average across developing countries, those figures refer to the most general definition of early marriage by age 18. However, during the project missions, numerous stakeholders reported that a large share of these cases concerns girls under the age of 15. The situation in Sudan is likely to be far worse than average with respect to the latter measure, given its particularly weak legislative protection. Unlike the vast majority of Muslim-majority countries, Sudan defines no specific minimum age below which marriage is prohibited or at least requires a special permission by judicial authorities.

Child marriage is not necessarily a causal driver of school drop-out and might instead be seen by families as more appropriate for a girl who is not in school anyway. While

establishing the social norm of delaying marriage is not a sufficient condition for achieving universal basic schooling among girls, it is certainly a necessary condition. To the extent that drop-out is indeed motivated by child marriage, its effect on the amount of schooling received is compounded by the problem of late entry, which reduces the time spent in school before reaching puberty.

Ironically, girls dropping out of school and entering early marriage are likely to miss out on the reproductive health content in the basic-education curriculum. This content is introduced in Grades 7–8; standard student age in these grades is 13–14 years with on-time entry at age 6, but in practice it often corresponds to ages 15–16. However, more context-specific research would be needed to establish whether introducing this content earlier might actually be counterproductive. Doing so might encourage earlier drop-out among families objecting to it, or conversely, be seen as promoting the notion that 11- or 12-year-old girls should already concern themselves with ‘marital hygiene’.

Against the background of present community attitudes, the policy of increasing the availability of single-sex schools has the potential to raise girls’ participation in the short to medium term. Another issue in this context concerns the share of women among the teaching force and constraints on their deployment to rural areas, especially if girls’ schools need to rely mostly on female teachers to overcome community reservations concerning girls’ participation. Also, given the important role played by local school councils, gender attitudes among community members that motivate separate schooling may easily lead to differences in the community management of girls’ and boys’ schools. Monitoring of gender gaps in aggregate outcomes is already being performed as a matter of course.

■ Policy recommendations

Recommendation 1: Systematically monitor the phasing out of co-education

The pedagogic case for gender segregation at the basic level is weak, and the potential to increase participation appears to be limited. Accordingly, expanding geographical coverage should take priority over the expansion/establishment of larger facilities to enable gender segregation.

To the extent that single-sex schooling at the basic level is more widely implemented anyhow, it becomes increasingly important to systematically monitor for emerging differences in provision between boys’ and girls’ schools that will likely emerge as drivers of gender inequality in the long term. This concerns both the inputs and performance of existing schools, but also a school network perspective. In other words, it needs to be ensured that a preference for single-sex schools does not become

a normative rule to the extent that where or while only a single school is supported in a locality, it is a boys' school rather than a co-educational one.

There might be potential to leverage the pursuit of single-sex schooling into increasing support for double-shifting where appropriate to make full use of existing facilities. Again, it must be ensured that the decision of which group gets use of the school at which time takes their welfare into equal consideration.

Recommendation 2: Raise the normative value of educating girls

There are no short-cuts to changing entrenched traditional social norms and customs. Raising the legal minimum age of marriage and/or ratifying the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) currently seem unlikely prospects. In any case, such moves would not, by themselves, effectively remove child marriage as an obstacle to schooling. However, while no doubt a compulsory education law has not been introduced until now because it would be unenforceable in practice, the question of whether this situation sends the wrong normative signal to parents deserves discussion. Even a compulsory education law that serves mostly to signal an aspiration rather than an enforceable requirement would at least deny legitimacy to the parental decision of choosing marriage over schooling. Conversely, progress towards universal basic education, both in practice and as a norm, would make an important indirect contribution to reducing the prevalence at least of child marriage below the age of 15.

Importantly, highlighting the importance of girls' education for girls themselves, as well as the significant health benefits to their families and communities, should not be limited to time-limited 'campaigns' but must be a consistent, continuous message communicated throughout the education sector. This includes the school curriculum as well as teacher training, and therefore requires building capacity across the education sector to change attitudes and behaviours impeding gender equality.

Recommendation 3: Promote arrangements for safe school commutes

During the field mission, multiple instances were encountered of families expressing reluctance to let their children – and especially daughters – walk to school primarily because of concerns for their safety. This appears to be a common concern even though walking would be feasible in principle in terms of distance, terrain and (absence of) wildlife. An approach worth exploring would be to promote zero or low-cost initiatives to facilitate safe travel, whereby one or more adults chaperone the schoolchildren from a given village at a set time and along a set route to school and back. Even a token payment to chaperones would potentially be cost-competitive to existing interventions in terms of increasing school participation, with the additional benefit of contributing to the local communities' purchasing power.

Recommendation 4: Train and support teachers in dealing with at-risk students

During their training, teacher trainees are currently only exposed informally during case discussions to questions of how to integrate late entrants or cross-entrants from accelerated programmes, or how to recognize students at risk of drop-out. However, such issues are frequently encountered by teachers in Sudan's classrooms. They are not only relevant, therefore, but there is also a wealth of existing experience. It is recommended to make an effort to leverage this experience more systematically during teacher training by developing formal teacher training units on these and related topics. This would not only benefit teachers by aligning their training more closely to the reality in classrooms they are likely to encounter, but also contribute to efforts to lower the number of children out of school.

Recommendation 5: Institutionalize an advocacy mandate and mechanisms for representing the interests of out-of-school children

As mentioned previously, some of the recent reforms in the education sector appear to be guided largely by a concern for the benefits to children in school, to the extent that they may actually make participation more challenging for out-of-school children. In order to avoid such a situation, consideration should be given to assigning an official mandate for representing the interests of out-of-school children in educational policy discussions – in other words, a mandate to review and comment on policy proposals in the education system from the perspective of the likely benefit or harm to currently out-of-school children. This task could be mandated to an existing institution, rather than creating a new individual post. Alternatively, this mandate could be distributed, by mainstreaming out-of-school considerations, such that for any policy proposal it is mandatory to review the question of how it is likely to affect out-of-school children.

Policy Issue 3: Language, reading materials and a 'culture of literacy'

The greater the linguistic distance between home and classroom, the more challenging is the successful acquisition of lasting literacy. The spoken language children are exposed to in the home environment in some segments of Sudanese society does not reach the quality of language they encounter in the classroom, and this gap is exacerbated by a lack of reading opportunities in many households.

■ Evidence

Standard Arabic is the principal official language of Sudan as well as the most common mother tongue by far among its residents. Technically, both Arabic and English are the official languages (CBR). However, English is not spoken natively by

any community, nor is it widely understood as a lingua franca outside of the highly educated elite. Linguistic minorities were historically limited to specific geographic areas, rather than present across the country as a whole, but internal migration in the modern era has led to sizeable communities residing in the greater Khartoum area in particular. In addition, there exists a large number of other languages with small numbers of speakers, many of which are only spoken.

There is an exclusive focus on formal Standard Arabic throughout the Sudanese education sector as a matter of policy, starting at the very beginning. Indeed, the exclusive reliance on Standard Arabic in the syllabus frequently remains unstated, as it is understood to be self-evident. *Vis-à-vis* spoken varieties of Arabic, this state of affairs is not specific to Sudan but universal across public education systems in Arabic-speaking countries, reflecting a perception of the spoken vernacular as a deficient form of Standard Arabic. In relation to non-Arabic languages, the policy of Standard Arabic-only schooling is explained in stakeholder interviews as both reflecting and supporting national unity. There is also a perception that the use of other languages in local schooling would disadvantage those students in terms of their ability to transition to higher education levels.

For rural and largely illiterate communities, their everyday spoken vernacular differs in many ways (including vocabulary, pronunciation and grammar) from educated spontaneous speech, and even more so from formal Standard Arabic. As a result of internal migration and displacement, this can be observed even in urban areas, especially in and around Khartoum. Adult educators interviewed in the field mentioned that some participants in literacy classes have difficulty even understanding the level of the language of instruction. Indeed, the 2008 National Report on the Situations of Adult Education in Sudan recognizes the desirability of mapping “dialects in the Sudan to use them in the field of literacy and adult education” (FMoGE and NCLAE, 2008, p. 9). However, the mission uncovered no evidence of this recommendation having been implemented.

In interviews during the missions, stakeholders expressed openness towards the REFLECT (Regenerated Freirean Literacy through Empowering Community Techniques) approach to literacy. REFLECT focuses on participatory, contextual learning, and it has seen some limited NGO-driven application in Sudan. The holistic nature of such an approach is discussed in the context of Policy Issue 4. From a language point of view, an important observation is that REFLECT builds on participants’ existing skills as a starting point. This holds true even if those skills are non-standard or partial, since the approach aims to foster a literacy that helps participants function in their everyday lives.

The role of traditional *khalwa* classes with a (non-exclusive) focus on Quranic instruction appears to be more limited than in many other countries with Muslim populations. In particular, the presence of *khalwas* is far from universal across localities, even those with their own mosques.

The scarcity of textbooks, school or public libraries, and, crucially, books in households was confirmed through stakeholder interviews. The resulting lack of reading opportunities outside of classrooms poses a great challenge to both the acquisition and the sustainability of literacy. Past schemes, such as the publication and dissemination of comic book periodicals for children, were deemed not cost-efficient and discontinued. Current plans within the remit of the NCLAE focus on the distribution of a set of readers to participants in adult literacy classes as a one-off.

■ Discussion

Many learners in Sudan experience a large linguistic distance between their home and the target language in class, namely formal Standard Arabic. Linguistic research on Arabic literacy acquisition suggests that such distance creates additional cognitive challenges (Ibrahim and Aharon-Peretz, 2005). In effect, learners are forced to learn how to express themselves in an unfamiliar register at the same time and as a prerequisite to learning more elementary aspects of literacy, such as matching letters to sounds.

In principle, one way to reduce this distance is to increase the exposure to literary Arabic at home. However, such a strategy faces a ‘chicken and egg’ dilemma with respect to illiterate households. Accordingly, a more feasible approach in the present context is to investigate the unexplored potential for building on learners’ everyday language as a stepping stone to Standard Arabic. This applies especially to primary-school-age children, but also to adult learners. International evidence suggests that ultimately more children would acquire a higher competence in Standard Arabic if initial literacy instruction at the basic level of letter recognition and the like would take advantage of their existing competencies in the spoken dialect (Saiegh-Haddad and Joshi, 2014; Haeri, 2009).

■ Policy recommendations

Recommendation 1: Recognize an intermediate literacy goal

In terms of the learning aim, mastering Standard Arabic at the level in use in the media, literature and government documents is an important end goal; nonetheless illiterate learners would already derive meaningful benefit from acquiring functional literacy more immediately linked with their day-to-day lives. In other words, being

able to compose a handwritten note or text message that conveys what they would express orally is a valuable ability in its own right, independently of the ability to express the same thought in a higher register.

At the same time, since such a goal could be reached with less instruction and practice time, it would make participation in initial literacy classes more feasible for those who struggle to meet the current intensive time commitments. It would also raise the rate of successful completion and provide a sense of achievement.

Recommendation 2: Reduce the linguistic distance between home and classroom

Investigate the potential of building on everyday spoken usage as a stepping stone to improved proficiency in formal Standard Arabic. This would concern the first few grades in basic education in addition to initial literacy classes leading to the intermediate literacy goal as outlined above.

Recommendation 3: Promote a literate environment and a supply of relevant reading opportunities

Naturally, relapse into illiteracy is likelier the less the new skill is practised by neo-literates. Indeed, survey data suggest that a significant share of basic-education graduates had lost their literacy skills since graduation, assuming they must have possessed basic literacy at the time of passing the basic-education leaving exam. The take-home readers supplied to literacy class participants are a relevant initiative. However, as a one-off distribution they do not address the need for a continuous supply of reading opportunities. This need will require additional support for the increased establishment of small libraries (ideally stocked with items requested by participants) attached to learning centres. In addition, ICT might provide a way to experiment with cost-efficient ways of delivering reading opportunities at a large scale, perhaps through text-message-based serial stories or interactive story games.

Ideally, creating reading opportunities should not be limited to the dissemination of materials designed to encourage reading for the sake of practicing reading. Such reading opportunities should ensure that the literacy skills gained actually prove useful in accessing material that is relevant for other purposes. Initiatives deserve consideration that ‘meet learners halfway’ in this respect. For example, consideration could be given to promoting the publication of official materials, including school announcements, in accessible, plain language that is grammatically correct and accurate but that uses everyday vocabulary and follows spoken structure. The aim would be to be comprehensible to a learner at the level of Grade 6, for example. Such ‘easy reading’ guidelines are being increasingly adopted even in areas with high average levels of education, including the United States and the EU.

Policy Issue 4: Cross-sectoral integration with livelihood, health and anti-poverty interventions

The effort to acquire literacy must complement, rather compete with, other aspects of individuals' ongoing lives, in order to be accessible to illiterates who struggle to meet the intense time commitment. However, cross-sectoral integration of literacy with other welfare interventions, and vice versa, could be expanded, based on successful local examples of linking non-formal education to micro-finance and income-generating programmes, for example.

■ Evidence

The existing curriculum and guidelines for literacy classes do already encourage the integration of some life skills or livelihood content into literacy programmes. Unfortunately, field interviews with both instructors and participants suggest that core literacy instruction tends to fill the time available, and that supplementary content is rarely delivered in a systematic fashion. In addition to time constraints, heterogeneity among the participants and their needs, as well as a lack of training in creating responsive and locally appropriate supplementary teaching inputs, act as hindrances. An important caveat is that only conventional literacy classes were observed during the mission, and that there was no opportunity to interview trainers who employ participatory approaches.

There is little evidence of successful integration in the other direction: of selective, focused literacy components being integrated by actors in the health sector, for instance. Mission interviews with non-education-specific external agencies suggest that this is due partly to a lack of awareness and partly to reluctance and lack of capacity to create such literacy components in-house.

Successful cross-sectoral integration of literacy programming is likely to be crucial to reaching a larger number of illiterate adults. Even interviewed participants who do manage to attend literacy classes consistently stated that a main challenge for them is that class attendance partly stands in competition to their other activities. This remains a challenge despite efforts by literacy programme organizers to arrange for flexible scheduling.

■ Discussion

There can be little doubt that focused literacy inputs can serve as a means to increase the effectiveness of interventions that primarily pursue other ends. Health interventions will benefit if simple written instructions (such as "take twice daily") can be understood, for example. At the same time, it is clear that the existing adult

literacy programmes go far beyond such limited skills in their ambition and demand a time commitment that precludes their insertion into other interventions as a mere add-on.

Actors based in other sectors are unlikely to possess the willingness or technical capacity to integrate a literacy component into their interventions if they would have to develop such a component in-house. The ready availability of shorter, less intensely demanding literacy content could increase such integration. Introducing such offerings should be preferred over attempts to raise the stakes even higher by making a literacy certificate mandatory for receiving public services (an idea floated during a stakeholder interview), which is likely to encourage fraud and would lead to a double disadvantage for illiterates.

■ Policy recommendations

Recommendation 1: Adopt local best practices and expand the use of participatory approaches at scale

In addition to supporting local REFLECT initiatives, as is already done, consideration should be given to expanding the use of participatory methodologies of ‘active education’, especially for women. These approaches should also be mainstreamed into formal adult literacy programmes. In particular, this concerns a focus on pragmatic, real-life functional literacy over formal literacy in formal Arabic, with the target learning outcomes determined in response to participants’ particular needs in relation to their daily lives. In other words, as a first step, even formal literacy programmes should focus on solving specific problems that illiteracy poses for the participants. This includes encouraging current and innovative curricula that reflect the daily lives of women.

Recommendation 2: Offer complementary literacy components as a service to facilitate linkage with interventions in other sectors such as micro-finance

The demand for cross-sectoral integration of literacy programming from other sectors could be stimulated if the NCLAE were to actively offer the basic elements of a subsidiary literacy programme, as well as support for customizing it. Such a complementary literacy component could be integrated into interventions by other actors that are primarily aimed at livelihood, health and poverty reduction directly. Naturally, this would involve lowered ambitions for the level of literacy to be achieved, in line with a much lower time commitment. This subsidiary literacy component should consist of a minimalist framework of materials and curriculum (drastically thinned out compared to the specialized literacy programmes) that can easily be adapted. Delivery may involve either the ‘secondment’ or temporary

transfer of literacy teachers, or alternatively a short training programme/package for non-specialist staff in the main (non-educational) intervention.

Recommendation 3: Foster experimental pilot initiatives, including ICT-based approaches such as e-learning

Conventional literacy programming, no matter how successful on its own terms, cannot be scaled sufficiently to reach a majority of adult illiterate Sudanese within a generation. Accordingly, support should be given to experimental pilot schemes to test complementary approaches that could potentially close some of the gaps. In particular, there may be untapped potential in leveraging households' own mobile phones. Indeed, accounts were reviewed of the pilot of an ICT-based (tablets shared among participants) semi-autonomous intervention that reports promising learning results in the challenging Sudanese setting. Even if the funding at scale of successful initiatives is left to donors, the education sector has a role to play in contributing to fostering a lively environment for experimental initiatives.

Policy Issue 5: Institutionalizing advanced analytical capacity and knowledge management to support continuous research on overcoming challenges to the education of OOS children, girls and nomads

There are substantial knowledge gaps with respect to the most promising interventions to universalize school participation in Sudan, some of which are mentioned above. Moreover, it is clear that 'more of the same' will at best make a dent in the number of illiterate adults and out-of-school children but will not achieve a decisive turnaround. Improving research capacity is therefore a necessary element of identifying alternative ways forward that could succeed in the specific Sudanese context. At the same time, the scope for targeted and efficient adult literacy programming is currently limited by the lack of consistent and timely data on the prevalence, nature and correlates of illiteracy. The underutilized potential of the higher-education sector to address these issues could be activated in multiple ways in terms of research and training.

■ Evidence

The public education sector, including both the ministry and the NCLAE, largely focus their constrained resources on pressing and daunting operational issues. As far as statistical data are concerned, the focus rests on their collection and management. Unfortunately, these constraints result in little critical data analysis or research being performed in-house. This state of affairs is evidently not due to a lack of skilled and qualified staff, as evidenced by the substantial number holding advanced degrees.

Nevertheless, there is a gap in the systematic analysis of data discrepancies – for example, disentangling per-student from per-graduate expenditures, or performance evaluation of literacy programmes.

No evidence was uncovered during the mission of systematic independent evaluation of the immediate effectiveness of literacy classes, much less of the extent to which neo-literates maintain their literacy later on, or of their social and economic benefits. Impressions of their effectiveness are based on participants' success in obtaining the literacy certificate. In principle, certification is exam-based. However, doubts were raised by some stakeholders interviewed regarding the rigour of the examination. Despite this need for continuous evaluation of 'what works' in different settings, there is an apparent absence of university-based centre/laboratory research into contextualized, locally successful practice. The closest is the graduate study and research at the Department of Adult Education at the University of Khartoum. In recognition of this need, the establishment of a High Council of Scientific and Educational Research was recommended by the third national conference on education in 2012 (FMoGE, 2012). However, this recommendation has not been implemented so far.

Adult education does not currently represent a subprofession within the teaching profession. At the University of Khartoum, preparations are under way to introduce an adult education specialization in the near future, but until now adult education has not been offered as a separate specialization within initial teacher training. Moreover, there are few, if any, teachers who engage in adult education exclusively and full-time. One reason given by stakeholders was that adult education is not perceived as a career option in its own right, as it would not be possible to provide a long-term job guarantee. One consequence is that the volume of literacy classes is largely supply-driven and subject to large year-to-year fluctuations. These fluctuations are driven by the availability of willing schoolteachers and national service volunteers, rather than matched to articulated demand or strategic priorities. As a result of these training and deployment arrangements, there are very few veteran adult educators with lifelong experience teaching adults who can provide an institutional memory of best practice.

With respect to data, existing estimates of the adult literacy rate vary widely (UNESCO and FMoGE, 2016; UIS, 2017; World Bank, 2012). Figures from different sources are inconsistent with each other in ways that cannot be explained by different years of data collection alone, and therefore cannot provide a robust sense of trends over time. This uncertainty affects both the literacy of all adults aged 15 and above and that of young adults aged 15–24 years. For the latter group, some estimates of illiteracy prevalence are also difficult to reconcile with rates of school entry and completion implied by enrolment statistics (especially given known poor learning

outcomes even among those in school) (FMoGE, 2015*b*). One of the most widely cited figures for the adult literacy rate is based on the fifth and most recent Sudan Population and Housing Census, conducted almost ten years ago in 2008.

The mission established that current practice in response to the absence of a single authoritative baseline estimate has been for individual institutions to generate their own figures. These processes are not always well documented. This situation has resulted in different authorities picking competing estimates, rather than attempting to consolidate sources based on a systematic effort to examine their differences in the definition and measurement of literacy, for instance, or a formal recognition of the inherent uncertainty.

A practical issue is that the EMIS for the formal sector uses schools as the basic unit of analysis. As a result, it is not evident how data concerning other educational activities, including from the non-formal sector, can easily be integrated with the EMIS even in the medium term.

Absent uncontested baseline and current estimates of illiteracy in the population, performance monitoring of adult literacy policy and programming is limited to records of the number of participants and graduates of literacy classes. In other words, it is not possible for the supply of literacy classes to be actively directed to the areas of greatest demand, in order to monitor their impact on the prevalence of illiteracy at the population level. Moreover, whereas supplemental skills training is to some extent adapted to the local context, the literacy materials themselves are by necessity standardized and reflect a priori pedagogical assumptions rather than empirical research regarding pre-existing knowledge and skills among potential participants.

■ Discussion

The notion that being an adult educator is not a sustainable profession is a curious one: at current rates of progress it will take several decades to eliminate adult illiteracy in Sudan. In addition, adult educators are arguably better positioned than schoolteachers to transfer their skills and experience to the private sector. The presence of a core of professional adult educators seems necessary to ensure both that research insights and innovations in adult education find their way into classroom practice, and that the knowledge and experience of best practices in the classroom find their way into training curricula and research agendas.

If literacy is understood in the sense of functional literacy, it is clear that the requirements of literary functioning undergo change over time, for example as a result of the widespread adoption of new technology. In addition, both the needs and

the pre-existing skills of participants in literacy training programmes are somewhat dependent on local context. Finally, the process of literacy acquisition in Arabic specifically is an ongoing area of cognitive, linguistic and pedagogical research.

Increasing collaboration with the university sector in these areas could be considered a win-win development, serving to close some of the knowledge gaps identified above. Collaboration at the research level in the field of programme evaluation could be expected to ultimately strengthen the articulation between university and government stakeholders in teacher training and professional development, for example, as pointers for reform would emerge from joint work.

The scale of the educational challenges in Sudan calls for a multipronged approach. The intrinsically limited scalability of conventional adult literacy programming implies it is insufficient to reach a majority of illiterates within a generation. Accordingly, there is little to lose by encouraging more small-scale experimental initiatives in spaces underserved by public provision, as long as the insights generated are collected to inform practice elsewhere, so that successful results can be identified and replicated. There are promising reports of pilots of ICT-based, semi-autonomous e-learning interventions, for instance. However, further experimentation is needed to tap the potential for leveraging households' own existing ICT infrastructure, specifically mobile phones. This is potentially relevant with respect to providing reading opportunities and materials, for instance, through experimentation with text-message-based serial stories or interactive story games.

Even the crude estimates of illiteracy currently available justify the conclusion that continued growth in the absolute number of illiterates is foreseeable. Nevertheless, reliable and more accurate data on the current number of illiterates, but crucially also on their location and characteristics, are a prerequisite for designing and targeting literacy interventions effectively and for monitoring their success. It is also necessary to assess the magnitude of the problem not only in terms of human rights but also in terms of the societal cost of healthy and productive life years lost to illiteracy and its consequences. This need for greater understanding concerns both quantitative and qualitative aspects of the issue.

Supposing for the sake of argument that the illiteracy rate were one in three, it matters whether – to use extreme examples – a third of adult members in each household is illiterate, or a third of households in each community, or whether a third of communities are composed entirely of illiterates. Although reality will of course be a mixture, in principle it is likely that these represent increasingly harmful scenarios. This applies not only in terms of equity, but also because a greater concentration of illiterates – more isolated and less proximate illiteracy – means they are less likely to benefit at least from the potential spill-over effects of literacy among their neighbours

or families. Such isolation makes illiteracy harder to escape, both for adults themselves and for their children. Indeed, it would be useful to also estimate and project the share of illiterate parents from the child perspective. If the more educated have fewer children on average, the overall illiteracy rate underestimates the share of children with illiterate parents.

Further, the above considerations take the definition of ‘literacy’ as a given. However, there are important gaps in our understanding of the nature of literacy in Sudan. This goes far beyond the quite relevant question of whether some Sudanese ‘illiterates’ may be literate in a language other than Arabic, to include the fundamental question of *in what way* they, as well as Arabic speakers, are or are not literate. According to UNESCO:

Literacy is the ability to identify, understand, interpret, create, communicate and compute using printed and written materials associated with varying contexts. Literacy involves a *continuum* of learning in enabling individuals to achieve his or her goals, develop his or her knowledge and potential, and participate fully in community and wider society. (UNESCO, 2004, emphasis added)

Even accurate knowledge concerning the number of illiterates in Sudan is incomplete without an understanding of which and how many of them possess no ability to read or write whatsoever, and who can read or even write short price labels, other notes, or mobile text messages, for example, but not longer grammatically and orthographically standard texts. The distinction matters both for policy and pedagogy (see also the discussion of the use of everyday versus literary language in adult education classes).

■ Policy recommendations

Recommendation 1: Establish a national educational research institution

The dormant initiative to establish a national educational research institution should be reactivated. This institution should be as independent as possible, but from this position of independence pursue a close working relationship with higher education, especially the University of Khartoum.

Initially, the role of this institution would be to serve as a clearinghouse for research and evaluation of educational initiatives, both public and independent. On this basis, it would begin to identify knowledge gaps. As it matures and establishes its profile, it should strive to become the home of advanced educational research in Sudan and begin to guide the research agenda in order to identify nationally and locally appropriate approaches to overcoming Sudan’s educational challenges. At the

very least, this will involve offering research opportunities and support in strategic research areas to graduate students and faculty at universities. Ideally, it will dispose of a budget to provide small grants to this end.

The aim would be for this institution to become the natural partner in evaluating national and international education initiatives in Sudan, both formal and non-formal, and including not only their learning impacts, but also wider social and economic effects. The institution would also serve as the forum for bringing together stakeholders interested in educational approaches that go beyond established service delivery.

Recommendation 2: Professionalize adult education service

The emerging initiative to offer adult education as a distinct specialization in initial teacher training at the University of Khartoum seems like a step in the right direction. This initiative deserves support and eventual expansion to other teacher training institutions. In order to support recruitment of competitive entrants into this stream, adult education must become, and be seen as, a viable and attractive career track. This requires opportunities for progression similar to school-based teachers. Indeed, since adult education classes will nevertheless continue to rely on non-specialist volunteers for the bulk of the teaching, professional adult educators will be more likely than schoolteachers to be engaged in training instructors in addition to teaching students. As a side effect, the availability of dedicated adult educators would tend to reduce the problem raised by multiple stakeholders that state education ministries can disrupt literacy programming by reallocating teaching staff back to schools at their discretion.

Recommendation 3: Conduct an in-depth baseline literacy study

In light of the knowledge gaps mentioned above, consideration might be given to implementing the Literacy Assessment and Monitoring Programme (LAMP) to replace the possibly self-reported literate–illiterate dichotomy with a multifaceted appraisal of different literacy skills on a continuum (UIS, 2009). As such, this will not produce yet another competing single numerical estimate of the literacy rate, but provide richer information to guide literacy policy. Given that LAMP has previously been successfully implemented in Morocco, Jordan and Palestine, the tools are

already available in Arabic, and there is already relevant experience with respect to the specific issue of dealing with Arabic diglossia.

Past experience suggests the cost of implementing LAMP to be around US\$250,000. While substantial in absolute terms, given the scale both of illiteracy in Sudan and of existing efforts to reduce it, this cost is marginal in the sense that it corresponds to rather less than US\$1 per participant in literacy training over the five-year period of the next strategic education sector plan, in relation to the established cost per neo-literate of US\$50–100 (UNESCO and FMoGE, 2016; Carr-Hill et al., 2010). The high rate of return to such an investment arises not only from establishing a data baseline and further increasing awareness of the complex and multifaceted nature of literacy, but also from allowing other expenditures on reducing illiteracy to be leveraged more effectively and efficiently.

Recommendation 4: Standardize recurrent literacy measurement

To further exploit the insights resulting from the investment in an in-depth baseline study of literacy in Sudan, the results should serve to inform the design of a simplified standard instrument appropriate for measuring literacy in the specific Sudanese setting. This instrument should subsequently be used as a matter of course in state-sponsored surveys and censuses. In addition, the materials should be made publicly available and their use encouraged in third-party surveys, impact assessments by NGOs, and so on.

Summary

The following table summarizes the policy issues and corresponding policy recommendations discussed in this chapter.

Table 21: Policy issues and recommendations related to out-of-school children and literacy policy

Policy Issues	Policy Recommendations
OOSL 1. Resourcing, distributional equity and efficiency	1.1 Increase education funding to reach international benchmarks, including for non-formal education. <ul style="list-style-type: none"> a) Mobilize domestic resources. b) Facilitate access to donors. 1.2 Consider 'community schools' strategy. 1.3 Consider flexible school entry phase. 1.4 Create transparent guidelines for the establishment of formal and non-formal education sites, supported by school mapping capacity.
OOSL 2. Obstacles to girls' education and other vulnerable groups	2.1 Ensure equitable co-education phase-out. 2.2 Raise normative value of educating girls. 2.3 Promote initiatives for safe school commutes. 2.4 Train teachers to deal with at-risk students. 2.5 Institutionalize out-of-school advocacy mandate.
OOSL 3. Language, reading materials and 'culture of literacy'	3.1 Recognize an intermediate literacy goal. 3.2 Reduce linguistic distance. 3.3 Promote a literate environment.
OOSL 4. Cross-sectoral integration of literacy programming	4.1 Adopt local best practices and mainstream participatory approach. 4.2 Offer complementary literacy services to facilitate linkage with interventions such as micro-finance initiatives. 4.3 Foster experimental initiatives, including long-distance media and e-learning.
OOSL 5. Data quality, analytical capacity and knowledge management	5.1 Establish a national educational research centre to document and disseminate successful experiences in OOS education, literacy and adult education. 5.2 Professionalize adult education service. 5.3 Conduct an in-depth baseline literacy study. 5.4 Standardize literacy measurement.

■ Chapter 4. Sector-wide policy and planning

SECTION 1: BACKGROUND AND REFORM CONTEXTS IN SUDAN

The signing of the Comprehensive Peace Agreement in January 2005 provided an unprecedented opportunity for Sudan to reconstruct and develop the education system as part of the continuing process of sustained participatory peacebuilding and empowerment of the people. Moreover, the CPA created favourable conditions for education to promote human rights, justice, the rule of law and democracy. These aspects of society were adversely affected during the longest-running conflict in Africa, which continued for almost a quarter century, interrupted by a short interval of peace as a result of the Addis Ababa accord in 1972 (UNESCO and FMoGE, 2016).

With the goal of upgrading the current education system, the third national conference on education in 2012 expanded general education to twelve academic years. Drawing on the policy recommendations of the conference, education reforms are being carried out, especially in the areas of human and financial resources, curricula, assessment and evaluation, and research (FMoGE, 2012).

A preliminary assessment of the mission concludes that while the education system in Sudan is characterized as relatively solid in terms of its structure and education service delivery, a more systematic and coordinated approach would significantly enhance efficiency and effectiveness in the system. In particular, such an approach would better address issues and policy areas related to 1) strategic planning, 2) monitoring and evaluation (M&E), 3) teacher development and 4) human resource planning and management. The review also concludes that critical policy issues stem from an absence of forward-looking human resource planning as well as limited data capacities, particularly at the decentralized/state level.

The mission attentively reviewed the governance and management of the education system, including aspects of organizational leadership and accountability. The next section presents five policy issues and a set of resulting policy recommendations in the area of sector-wide policy and planning.

SECTION 2: POLICY FINDINGS

Policy Issue 1: Absence of forward-looking resource planning

Forward-looking resource planning is essential for an organization to meet its missions, operational objectives and strategic targets. It involves anticipating future resource requirements and developing plans and strategies to meet them.

■ Evidence

Imbalanced supply and demand

Resource issues can be seen throughout the education sector in Sudan. School resources such as textbooks, chalkboards and classrooms are necessary but not sufficient for student learning. There is a significant gap in materials and school infrastructure between urban and rural schools in Sudan. Schools are concentrated in urban areas. Many schools in the south and west of the country have been damaged or destroyed by years of civil war. The FMoGE reported in 2007 that nearly 5% of children had to travel more than 3 kilometres to attend the nearest school, while in urban areas class size could exceed 100 students (UNICEF, 2009).⁸

Pupils in urban schools are the most advantaged (even if their conditions do not necessarily match the official policies and recommendations), with 73% of them sitting at a desk during school. Urban teachers are also provided with better learning environments and materials, including usable chalkboards. Rural schools do not have equal conditions, as they are often not provided with usable chalkboards, and only 17% of their pupils have a desk (World Bank, 2012).

A 2013 World Bank report found that:

There are inefficiencies in teacher deployment and utilization. Teachers are very unevenly distributed across schools and the correlation between the number of students enrolled and the number of teachers at basic schools in Sudan is weaker than in 28 African comparator countries. Once deployed, teacher utilization is relatively inefficient, with a basic-education student-teacher ratio of 34:1 and an average class size of 48. This implies that at any given time almost one-third of teachers in basic education are not in front of a class. (World Bank, 2013, pp. 104–105)

The overall lack of investment in education translates into schools lacking basic supplies and a safe environment with sufficient sanitation facilities. A 2008 baseline

⁸ Available figures are prior to the secession of South Sudan in 2011.

survey indicates that even though most schools have toilets, a large share of those toilets are either temporary or in need of repair (FMoGE, 2008). These issues are even more common in states that were afflicted by conflicts.

A study conducted in 2008 based on visits to seventy-one government basic schools in seven states also documents significant differences in textbook availability across states and across urban and rural areas (EU, 2008). In 2012, at the primary level there were three pupils per textbook for mathematics and reading (UIS, 2017) in spite of the official policy of a 2:1 student–textbook ratio (FMoGE, 2008). However, between 90% and 99% of pupils have pens, pencils and notebooks.

An attempt to carry out a simulation model towards more evidence-based planning

Building a simulation model could help with devising different hypotheses and scenarios for more evidence-based planning, policies and strategies. Disaggregated data are therefore crucial for any type of simulation exercise. This review made an attempt to collect the most recent disaggregated data on pupils and teachers from each state to assess whether their daily workloads are justified based on comparative regional and international perspectives.

During this process, a variety of different sources and websites were reviewed, and a lack of up-to-date disaggregated data was observed. The data found were either aggregated, partially or totally, or not user-friendly or accessible.

For instance, the official website of the Central Bureau of Statistics cannot be opened properly and technical problems occur when accessing data. Another website called *knoema* has data from official sources; however, the most recent data are from 2009, which are presented in a table format that cannot be easily used.

According to the World Bank's DataBank, whose data are originally drawn from UNESCO/UIS, there are essential education indicators available from 2013, including 1) government expenditure on education as a percentage of GDP, 2) gross enrolment ratios, 3) the gender parity index, 4) net enrolment rates, 5) primary completion rates, and 6) out-of-school children. However, more disaggregated and micro-level data, which could explain details about classifications by state, sex, age, locations and socio-economic status, are not available (World Bank, 2017).

■ Discussion

Lack of succession planning and management for teachers

The lack of succession planning is an issue that requires consideration. Teacher supply and demand can be managed by proactive planning using relevant data to determine the number of qualified teachers that will be required in a given year. In order for

the education system to function effectively, forward-looking planning is essential in the areas of teacher recruitment, deployment, training, career development and assessment. In Sudan, however, the weakness of the monitoring and information system has made it difficult to carry out proper staff planning for teachers.

Ineffective system for teacher monitoring and evaluation

In order to respond and cater to diverse groups and communities, education provision in Sudan takes a variety of forms, notably formal schooling, non-formal and adult education, nomadic schools, IDP schools and village schools.

In principle, teachers are supervised by head teachers, education councils and local or state inspectors. Inspectors are former teachers, often approaching retirement age, who are attached to state or local education units. Regular teachers are supervised by inspectors, whereas volunteer, national service and part-time teachers are generally supervised by the education councils, which use different standards. Regular teachers are supposed to be monitored two to four times per year. In practice, however, there is a lack of clarity in supervision and monitoring for teachers across the various types of education settings.

The composition of education staff varies across education levels. In 2009, there were 216,824 education staff members on the government's payroll and 17,458 national service or volunteer teachers. Volunteer teachers account for 64% of all staff in literacy programmes, whereas the vast majority (80%) of basic-education staff are government teachers (World Bank, 2012). To date, there exists no nationally consolidated database that can provide evidence on the status, deployment, qualifications and subject specializations of teachers in Sudan.

Due to the lack of clarity in supervision and monitoring structures as well as the absence of a nationally consolidated database, improving teachers' qualifications and performance is a serious challenge for the education sector. It is vital to address this challenge, as research has proven that there is a strong correlation between teacher performance and student learning outcomes.

Insufficient articulation of policy/planning and management of financial resources

In many contexts, there exist strategic planning instruments, whether in the form of a five-year or ten-year plan. These plans will be readjusted yearly based on financial forecasts. Perfect coordination between multiyear planning and annual budgets would be an ideal scenario, but this is never completely the case due to a variety of stumbling blocks. Differences in the two processes in terms of stakeholders and administrative procedures inevitably lead to divergence in planning and budgeting.

It is evident that while macro-planning follows a developmental goal, budgets are a form of short-term operational planning, which covers one year and is often dictated by immediate financial and economic contexts. In order to meet both ends, or to narrow the gaps, strategic planning must be realistic and anticipate macroeconomic constraints, while budgetary planning also needs to be made with a pluriennial perspective.

Recent trends point towards the use of performance indicators linked to budget allocation, often at the decentralized levels. The concept of connecting education costs more closely with results obtained, in order to measure performance, has gained importance. The development of budgets by programme has improved articulation between objectives and resource allocation. Criteria for effectiveness are now being applied to the resources used, the activities executed and the results achieved (IIEP UNESCO and OECD CELE, 2012).

■ Policy recommendations

Recommendation 1: Establish a nationally consolidated database that can provide evidence on the status, deployment, qualifications and subject specializations of teachers in Sudan

It is recommended that Sudan work to establish a nationally consolidated database on the teaching body that includes age, gender, experience, qualifications, degrees, subject specializations, teaching load and location, in order to better inform teacher management and policies and address imbalances in teacher supply and demand. To manage the magnitude of the data collection task, a phased approach should be introduced, dividing eighteen states into three clusters, with a solid planning process accompanied by a mechanism for M&E and implementation at all levels – central, state and locality. Such a phased approach could duly take into account the needs of populations that have been affected by conflicts.

Recommendation 2: Develop a comprehensive strategy for education financing that encompasses 1) a medium-term expenditure framework (MTEF), 2) education budgets and 3) performance indicators

In conjunction with the implementation of the forthcoming five-year strategic plan (2017–2021), it is recommended that a viable strategy for education financing be built or revisited (if one exists already). The strategy should aim towards more integrated policy, planning and budgeting that are essentially driven by policy priorities and budget realities. The strategy should also aim to provide a complete evaluation of educational expenditures, including all categories of public and private institutions, both domestic and external (IIEP UNESCO and OECD CELE, 2012).

Recommendation 3: Introduce a school mapping effort to address efficient and effective use of resources

School mapping is a strategic planning effort to ensure the efficient and equitable distribution of resources within and between school systems, particularly when an education system engages in a large-scale reform or significant expansion (Bray and Varghese, 2011).

To optimize the use of capital and human and financial resources, school mapping involves several steps, from diagnosis to the establishment of a prospective school map. The diagnosis phase aims to identify the main criteria and methodologies that should be used to select the pilot area in which school mapping will be prepared. This phase also identifies the main indicators to be used for diagnosis of the local education system. The next phase involves formulating a strategy for reorganizing the existing school networks and educational provision based on the diagnosis, norms, standards and catchment areas. A GIS should support the development of school mapping at each stage. Such a micro-planning process encourages and fosters cooperation between decentralized and centralized units, while preserving the necessary responsibilities at all levels.

Policy Issue 2: EMIS and data capacities

An Education Management and Information System is an important management tool for effective resource planning, management and M&E at all levels of education. An effective EMIS requires qualified personnel, advanced technology and organized processes to achieve the best results.

Information is the basis of the management, planning and evaluation of an education system. During the education management process, the EMIS should inform the different actors and partners about the state of the education sector, its internal and external efficiency, its pedagogical and institutional operations, and its performance, shortcomings and needs. An EMIS should aim not only to collect and store data and process information but also to help in the formulation, management and evaluation of education policies. Like any prescribed treatment, a plan should be based on a precise and exact diagnosis if it is to be effective. Problems should be identified through detailed and critical analysis in order to be able to propose solutions.

■ Evidence

In Sudan, the EMIS was introduced in December 2010 and has become the primary source of administrative data for the FMoGE. The project, which commenced in September 2008 with financial and technical support from the EU and UNICEF

respectively, has played a critical role in capturing national education output and input data.

The EMIS is continually being upgraded to make it more effective. Nevertheless, it has not been fully operational and able to produce all the necessary data required for more effective evidence-based policy and planning. In addition, the system is set up to produce data twelve to fourteen months after initial data collection, which is well into the start of the next school year (Smith and Elgarrai, 2011).

In an effort to fill the data gaps for the EMIS at the state level, since 2012/13 the World Bank has conducted rapid annual surveys through a very simple questionnaire administered by the localities to develop state-level capacity. The tool was originally developed to ensure that the project implementation unit would have sufficient data to effectively monitor implementation and outcomes associated with the project. This supplementary tool, called Rapid Results EMIS, uses standard software widely available within the ministry and consists of a one-page questionnaire with selected indicators. The purpose of the tool is to ensure the availability of required data within six to seven months of the start of the school year. It includes specific measures to increase capacity in M&E and data collection and also specifically addresses issues related to developing sustainable capacity for textbook distribution and the administration of learning assessments (World Bank, 2013).

Towards a more integrated M&E system with solid data capacities

Capacities in data collection, analysis and management are indispensable for the integrity of policy development and planning. The best use and analysis of data, in particular disaggregated data, will also eventually contribute to effective use and management of resources. Data also enables better communication with education stakeholders and enhances accountability structures within the system.

For instance, when it comes to measuring learning outcomes, the limited availability of data, including disaggregated and solid EMIS data as well as data on national assessment, is a significant obstacle. It is essential for the education system to establish a solid EMIS and a systematized monitoring system for tracking learning outcomes at all levels of education provision.

Developing an effective M&E system requires engaging in several decision-making processes. These include 1) identifying the right balance between direct government control over educational institutions and staff and the degree of autonomy given to them, which depends to a large extent on existing organizational and institutional capacities; and 2) developing effective tools for M&E, which are often in the form of school inspection or supervision systems. The second review mission intends to look at this aspect at the school level in particular (IIEP UNESCO and OECD CELE, 2012).

Against this background, the EMIS has been established in Sudan with the aim of producing and providing infrastructure for data collection and analysis. Three key conditions form the cornerstones of an effective EMIS (Hua and Herstein, 2003):

- All data and information must be timely and reliably produced.
- Data must be openly shared and integrated with all departments and authorities.
- Analysed data must be usable for improving educational policy decisions.

However, the system in Sudan is not fully operational and must be improved to meet the needs of the education sector. To ensure the availability of good quality data to inform decision-making, two main domains need development: the teacher management database and the learning assessment system.

The following sections discuss three aspects of the challenge to improve the EMIS in Sudan: 1) data, including criteria for good data, the quality and quantity of data, and other issues; 2) human capital, including the skills and qualifications needed to manage data; and 3) technology, including the tools needed to manage data.

Data

The first step in approaching data is to have a clear conception of data. There is a significant difference between data, information and knowledge. According to UNESCO's International Institute for Education Planning (IIEP UNESCO):

A unit of data – or datum – is defined as a raw item devoid of meaning, in that it lacks a context or is not interpreted. The presence of a context or interpretation constitutes the main difference between information (or a piece of information) and the datum: ‘In other words, placing the unit of data in context creates the added value needed for the existence of (a piece of) information.’...As regards knowledge, it lies at a higher level of complexity. It is described as ‘understood’ or ‘assimilated’ knowledge, which may be tacit or explicit. (IIEP UNESCO and OECD CELE, 2012, p. 64)

The main questions that need to be asked are: what kinds of data are needed, what are the different criteria, and why?

One of the main challenges for the EMIS in Sudan is alignment between what is needed and what is offered. According to the World Bank, “data collection is insufficient to target inequity and provide evidence-based service delivery” (World Bank, 2013, p. 7). Data must be up-to-date in order to be useful; for example, there was an instance when information about the nearest schools was needed, but the

only document related to school mapping was outdated, and no school mapping had been conducted for quite some time. Data must also be accurate. The old system of data collection in Sudan using yearly books can be a problem in this regard, since the method of collection can affect data accuracy, confidentiality and storage (IIEP UNESCO and OECD CELE, 2012). Finally, data should be usable. In another example from the field, it is difficult to find data related to spending in the education sector at the state level, because the Federal Ministry of Finance and National Economy (MoFNE) does not collect these kinds of data at the state level. Hence, this lack of disaggregation makes the assessment of the inputs, outputs and outcomes in each state difficult (World Bank, 2013).

Human capital

The second challenge facing the EMIS in Sudan is the lack of skills and qualifications required to collect, manage and use the data. This lack of skills is one of the major problems preventing the effectiveness of the EMIS. In countries like Sudan where the EMIS is still developing, there is a need to provide capacity development and train specialists on tools and approaches, in order to enable full system utilization and data management.

Another issue relevant to human capital is the distribution of responsibilities. The data lifecycle is big and has different phases, each one a preparatory phase for the next. Each person in the process has to know his or her role in working with the data, in order to prevent duplicated work or mismanagement. A high-functioning EMIS needs a well-integrated education system, and the people in charge must ensure that information is exchanged easily and openly between actors, stakeholders and sectors.

Finally, one of the main challenges is organization, which particularly affects the data collection phase. Many questions about the organization of the work and the administrative organizational model used (centralization, decentralization, devolution, etc.) must be raised and answered in order to ensure effective functioning of the EMIS (IIEP UNESCO and OECD CELE, 2012).

Technology

There is a need to improve the tools and equipment used in the collection, management, analysis and dissemination of data. The technology must be user-friendly, accurate and easy to edit and modify, and the data must be open and shareable with everyone (World Bank, 2013).

Not all EMIS tools are effective and efficient. Many of them are designed for a specific purpose without any capacity for adaptation to the country and context of use. The limitations of these tools include, among other things, “lack of control mechanisms

of data entry and consistency, inability to retain data over several years, [and] user-unfriendly ergonomics” (IIEP UNESCO and OECD CELE, 2012, p. 77).

Another technological issue is the storage, processing and circulation of information, which are currently not linked to technical backups like databases, software and information networks. The education system’s needs and management level will determine which types of information should be networked and backed up (IIEP UNESCO and OECD CELE, 2012).

■ Discussion

There are myriad ways to strengthen the EMIS in Sudan. The following stories from Egypt, Uganda and Jordan highlight some strategies that may be useful in Sudan.

Egypt

Multiple efforts have been initiated over the past several years in Egypt to improve the ability to collect efficient and reliable data in order to improve decision-making and develop policies in the education sector. Although significant progress has been made in the area of data collection as well as data accuracy, many challenges remain in different areas such as questionnaire design, data analysis and utilization of findings. The main problem is that the Ministry of Education was unable to produce indicators according to international definitions. The lack of staff qualified to use and analyse the data in the school administration was a key issue in Egypt (World Bank, 2002).

Uganda

The project conducted between AED/Aurecon⁹ and the Ministry of Education and Sports (MoES) aims at improving the timeliness, accuracy, reliability and availability of collected data and developing strategic planning techniques. It initially addressed developing capacity to take full responsibility for all tasks related to statistics and the development of the EMIS in Uganda. This project has impacted the usability of data and information in the education system in Uganda by supporting the development of understanding of the data systems to be used for M&E and decision-making. This project helped promote the sharing of data through innovative and new software (EMIS and others) and conducted different trainings at the ministry level and at district education offices (USAID/EQUIP2, 2008).

⁹ Aurecon provides advisory, design, delivery and asset management services on projects across a range of markets in locations worldwide. These services include: digital advisory and infrastructure advisory, building design, ground engineering design and infrastructure design, etc.

Support for EMIS in Uganda

Strengthening the management of education is one of the main strategic objectives for the Ugandan Ministry of Education and Sports. Many donors have been supporting it for many years with only one target: to improve the education system in the country. One of the projects between the MoES and AED/Aurecon is to develop capacity for all tasks relevant to statistics and EMIS. To address statistical requirements, AED/Aurecon has deployed an EMIS. Results generated by this system are being used to monitor progress in improving education in the country.

Aurecon's objective was to address outstanding operational weaknesses and achieve up-to-date statistical information in the education sector. Aurecon provided technical support to the ministry in supporting the management of the EMIS, to ensure that undertakings on monitoring and evaluation for the Education Strategic Investment Plan were met, and provided technical support and capacity development in statistics to the MoES head office and districts.

The activities include: school mapping exercise, intensive ED*ASSIST policy and maintenance training, follow-on MoES training in systems use, and creation of a mini-census for twice-yearly updates for primary schools.

Uganda has achieved many objectives related to the EMIS, and the system has improved gradually. The first step in the first project was to introduce EMIS in Uganda at the central level and to introduce the concept of decentralization to the districts.

EMIS 2 achieved many objectives, the most important of which include:

- An EMIS database was installed on the workstations of MoES senior managers and EDP members, and training was conducted on its use.
- One-on-one training was provided to senior managers at the MoES.
- Staff EDP were given three weeks of training to an intermediate level in computer skills (Word, Excel and Access).
- A plan was developed for EMIS skills training for clerical, technical, operational and senior management MoES staff, and to district education officers and district inspectors.

The Educational Quality Improvement Program 2 (EQUIP 2) Associate Award had six main objectives, one of which was to increase the level of training for EMIS at the ministry level as well as in the districts. At the end of this project, the GIS school

mapping exercise was completed, different trainings and capacity development were provided to different staff, and technical assistance was offered to the statistics section.

This experience is one of the most successful illustrations of EMIS introduction in a developing country. Continuity of the key initiating actors (AED and Africon) was a key success factor that was useful even when the source of funding changed. However, the yearly basis of the project, with unclear funding and plans for the future, makes it difficult to plan long-term activities such as training and planning. One lesson learned from this experience is the importance of easy-to-read EMIS/GIS printouts for use at the district and other levels. The challenge faced by Uganda in this sector is rapid staff turnover; after providing different trainings and capacity development to staff, many leave the MoES for other jobs in the private sector. Keeping qualified directors in their positions is difficult, which makes the continuity of these projects harder (Aurecon, 2017; Bernbaum and Moses, 2011).

Jordan

The OpenEMIS¹⁰ tool has been used since 2014 as part of the Jordanian government's Education Reform for the Knowledge Economy, Phase 2 (ERfKE II). This initiative was the result of technical support from UNESCO Amman and a working group from the education sector, and funding from the EU. The project was mainly initiated to monitor education opportunities for refugees. OpenEMIS was customized as a monitoring system for tracking educational data on Syrian refugee children in schools and at the education centre in the Za'tari refugee camp (UNESCO, 2016a).

OpenEMIS in Jordan

Before 2014, Jordan was working with a private company to manage its EMIS. As the government was dependent on a single provider to manage the data and produce the statistical reports, this option was costly and caused a delay in access to the information.

In 2014, the Jordanian Ministry of Education (MoE) asked the UNESCO Amman Office to adapt the UNESCO OpenEMIS system for use in Jordan, because it would be easier and less expensive, as the MoE's EMIS Unit can maintain it independently. OpenEMIS is an open-source education management information system designed to collect and report data on education systems.

10 Originally developed by UNESCO, OpenEMIS is now coordinated by UNESCO with technical support provided by Community Systems Foundation.

The MoE needed OpenEMIS to collect data related to Syrian refugees, so a special module for refugees was added to the project. UNESCO, in cooperation with the Community Systems Foundation (CSF), started customizing the existing system and preparing a plan to provide the necessary technical services and assistance to the MoE, through the following steps:

- UNESCO trained six MoE EMIS Unit staff on how to maintain, operate and upgrade OpenEMIS independently.
- UNESCO provided and continues to provide ongoing training on how to use the OpenEMIS interface for policy formulation, planning, and monitoring and evaluation purposes.
- The MoE trained 600 teachers and administrators at the regional level in data collection and entry for the new system, who have in turn trained over 13,000 EMIS focal points at the school level (UNESCO Amman and CSF, 2016).

OpenEMIS supports Jordan's MoE in formulating evidence-based policy based on real-time education data from individual schools, staff and students. This sector-wide tool provides education statistics in a flexible and cost-effective manner that meets the needs of information producers and users. OpenEMIS can be used for education ministries and education administrators at the regional, local and school levels, and for the generation of national statistics. It collects and analyses data, provides standard education indicators and powerful data visualizations, identifies disparities and gaps, facilitates resource allocation and data-driven decisions, improves planning and monitoring, and delivers through a royalty-free web-based interface with support for multiple languages. Together with large-scale institutional, technical and human capacity-building operations across the country, the tool will allow the ministry to collect accurate data and indicators and formulate effective policy responses (UNESCO Amman, 2017; UNESCO Amman and CSF, 2016).

■ Policy recommendations

Recommendation 1: Strengthen the current M&E mechanism

M&E is one of the main applications for data use. There is a need to strengthen this system by creating a common EMIS system for all actors, which will facilitate monitoring and evaluation tasks. There is also a need to increase the number of M&E specialists with the qualifications and skills required to work effectively with data and make data processes more efficient.

Recommendation 2: Widen the scope of education data collection

The scope of data collection must be proportional to the needs and diagnosis of the sector under examination. Hence, it is suggested to widen the scope of data collection to cover all needs and gaps. In principle, the scope should cover the whole sector, including all levels of education and the learning acquired in all settings, including non-formal education. It is important to first identify gaps in terms of effectiveness, after which best practices can be created and piloted for the EMIS database to further develop the system. It is also important to disseminate knowledge by making the data available, open and shareable.

Recommendation 3: Develop and disseminate capacity development and training programmes

Basic technical skills must be developed in the areas of EMIS, at the ministry level and in particular at the decentralized levels. Work on education system diagnosis and expenditure analysis within the ministry requires a training programme in cost analysis techniques. Staff must have basic knowledge of economic concepts (costs, expenditures, etc.); financial skills such as the capacity to collect, process and analyse financial statistics in education; and familiarity with funding mechanisms and methods for identifying sources of information (government budgets, household surveys, financial statements from educational institutions, etc.). The training programme should focus on collecting data, making estimates, managing data and drawing a full picture of education expenditures and unit costs (IIEP UNESCO and OECD CEL, 2012).

Policy Issue 3: Decentralization policy and implementation and its policy implications

All types of governance structures and arrangements, whether centralization or different stages of decentralization – namely de-concentration, delegation and devolution – can only function properly under the appropriate enabling environments (UNESCO, 2017, forthcoming). Most important and relevant to note is whether a process of decentralization is fully backed by a proper mechanism to support local authorities in fulfilling their new responsibilities.

In such a process, the central authority plays a key role, and its effectiveness in M&E becomes critical. Decentralization leads to increased participation in the decision-making process and enhanced accountability for local authorities.

The CPA and the Interim Constitution of the Republic of Sudan in 2005 led to the creation of a decentralized system of education delivery. This decentralized system

is made up of three levels: the FMoGE, the SMOGEs and the localities. The role of the FMoGE in Khartoum is to plan, coordinate and monitor across the three general levels of education. The FMoGE is also responsible for policy development in three key areas, namely secondary-school certification, the qualification framework for teachers, and development of basic- and secondary-education curricula. The SMOGEs are in charge of policies related to human resource management and certification for basic education. In addition, they share with the localities the responsibility of education provision for the three general levels of education. This decentralized system enables the regions (whose numbers change from one year to another: there were fifteen states in 2012 and eighteen states in 2016) to address their specific needs and contexts as well as bring the decision-making process and resources closer to them. It also significantly widens the responsibilities of the states and increases education spending at the state level.

In practice, decentralization has turned out to be a challenge, as noted in the CBR. First, the varying capacities of each region to raise revenue and implement policies create difficulties. The fiscal autonomy of the states is still limited because they continue to rely heavily on federal transfers, and also because federal policies influence salary determinations and teacher employment, which are the largest items in state education budgets. Moreover, during consultations with stakeholders at the local level, the review mission received conflicting information and views on the roles and responsibilities of each level of government. Because of this lack of clarity, the process of reporting to and coordinating with the FMoGE presents various challenges.

■ Evidence

In response to the subsequent difficulties experienced through the People's Local Government System of 1971, the establishment of an effective local government system has been imperative in Sudan on account of both the vast scale of the country and the decentralization policies of successive governments. The governance reform was carried out through the implementation of the 1981 Local Government Act, which prescribed a revised structure for local government and thus empowered the function of the local authorities and provided further impetus to the decentralization process. The government reforms required political will and commitment as well as adequate financial resources and capacities. In addition, they required a clearly defined policy direction and corresponding procedures that clearly articulated the roles and responsibilities of the entities at various levels, accompanied by the appropriate administrative and organizational structures (Norris, 1983). Such conditions, along with adequate financial and human resources, should have been the prerequisite for fully implementing the governance reform. Despite ongoing efforts, this has not been

the case in Sudan. Although the legislation reflects a willingness to share authority and resources, this has not always translated into efforts to reform existing structures and institutional cultures (Lugaz and De Grauwe, 2010).

■ Discussion

In principle, decentralization refers to the transfer of authority and responsibility for the financing and governance of schools to a subnational agency. As the wide range of terms already suggests, decentralization has a wide spectrum of manifestations: de-concentration, devolution, delegation, school-based management, self-governance and privatization. Decentralization in Sudan can be categorized as de-concentration, which refers to a shift of power within the administration from central to lower levels – in this case, to a state level, in response to a rapid expansion in education provision.

It is important to highlight that governance in one country seldom follows a pure model but is rather a mixture of the models (de-concentration, delegation, etc.). Although devolution and de-concentration might seem to be mutually exclusive, many countries have implemented both policies at the same time, transferring specific responsibilities such as school construction to district councils, and other responsibilities such as teacher recruitment to district education offices (Lugaz and De Grauwe, 2010).

In such a process the role of the state is crucial. Decentralization does not necessarily imply a decline in state influence but rather a shifting role towards steering regulation and M&E functions. In the evolving process of unpacking the Education 2030 agenda, the role of education authorities at the central level is even more crucial for monitoring education provision and outcomes as well as formulating a shared strategic vision to govern and manage their education systems (UNESCO, 2017, forthcoming).

There are several conditions that should be met in order to implement effective decentralization. First, full fiscal decentralization needs to accompany the decentralization process. Second, decentralization must be in line with national education goals and motivated by the intention to improve the quality of education rather than conceived of as a mere democratization process. Decentralization should not be a final goal in itself but rather part of a continuum of policy reform to achieve quality in education provision. Third, decentralization efforts should fully align with legal reforms.

Lessons learned from various countries

Decentralization will be most effective when stakeholders in the education system are convinced by the educational motivations behind reforms and agree that the most appropriate form of decentralization is delegation of resources, autonomy and accountability to the school and local levels. If central authorities believe that the capacities to implement decentralization are not sufficient at the local level, then a vicious cycle may occur whereby no opportunities for capacity development are created, and so authority is never transferred. To avoid this situation, a transition period for the delegation of authority could be effective, as it would allow limited power to be transferred to the local levels, while local capacities can be fostered to facilitate a larger decision-making role gradually (Karmel and al-Batran, 2016).

De-concentration and devolution in different contexts

Although de-concentration is the most common of the three types of decentralization in developing countries, it is also the most limited in both theory and practice and has not demonstrated a significant impact on the quality of education. De-concentration should be conceived as a first step that constitutes a building block for an effective decentralization process (Karmel and al-Batran, 2016).

Research on devolution is scarce, but there are indications that it does not have a positive impact. Very few successful examples of devolution exist, particularly in developing countries. The process itself can be quite disorganized and may have a negative impact on aspects of educational equity and quality. The process may also be quite complicated, often occurring outside of the control of a ministry of education, whereas delegation is implemented and directly monitored by a central education authority.

Reform in Jordan

A major education reform in Jordan initiated in 2003 is a good illustration of a decentralization process that involved comprehensive policy reform. The ERfKE project aimed at reorienting education policy objectives and strategies through governance and administrative reform. More specifically, it strove to achieve:

1. A redefined vision and comprehensive integrated national education strategy
2. Revised governance, management and decision-making mechanisms to achieve and support an education system that delivers basic skills, core competencies and essential learning for the knowledge economy
3. An Education Decision Support System (EDSS) to facilitate efficient policy analysis and effective system management as well as to promote transparency

4. Comprehensive and coordinated educational research, policy analysis, and monitoring and evaluation activities
5. Effective management and efficient coordination of educational investments directed towards reform efforts

Building on the first phase of the reform, ERfKE II focused on the following areas of intervention (UNESCO, 2008):

- Field directorates and school-based improvement and development
- Strategic policy planning and monitoring and evaluation

■ Policy recommendations

Recommendation 1: Conduct an in-depth assessment of current governance frameworks through institutional audits of the organization of the education ministries

In response to the inadequacies of current regulatory frameworks and practices in various subsectors, the education authorities should undertake a set of reviews of current governance frameworks to gauge their impact on effectiveness and efficiency. In particular, such reviews should aim to:

- Provide clearer articulation of the rules and regulations governing management responsibilities at state and local levels, especially for the role and functioning of the administrative councils and the representation of different stakeholder groups on the administrative councils.
- Strengthen accountability mechanisms in the education system by identifying accountability principles and approaches that could be more effective than the approaches currently in place.
- Establish a better coordination mechanism among stakeholders with management responsibility to enforce financial accountability and to better align resources and responsibilities at state and local levels.

Recommendation 2: Organize a study visit with the support of IIEP UNESCO on the organization and management of the education sector: systems and institutions

To effectively address challenges and issues around decentralization since the 1980s, a study visit would aim at providing the ministry with potentially feasible organizational models and policy options towards a more effective decentralized system.

Such a study visit would broadly focus on 1) how to manage and organize the system as a whole and 2) how to manage and monitor institutions at the local levels. Through a study visit to one country (to be determined through consultation), participants from the education ministries would be able to observe different examples in the areas of 1) educational administration and management, 2) system-level regulations and regulatory frameworks, 3) organizational models and options and 4) local-level management approaches and tools.

Policy Issue 4: Policy implementation gaps

In many contexts and in particular for emerging and developing economies, implementation gaps must be addressed in order for an education system to function effectively. A typical bureaucratic gap between policy adoption and policy outcomes is considered an implementation gap when the policy remains on paper or is implemented poorly. This section aims to identify obstacles to policy implementation and provide possible strategic approaches to overcome implementation gaps in the areas of governance and policy reform, on which Sudan is currently focusing.

■ Evidence

While the education system in Sudan is relatively solid in terms of its structure, it is observed that policy actions and implementation are largely absent. A more systematic and coordinated approach would greatly enhance efficiency and effectiveness within the system and in particular would better address issues related to strategic resource planning and management as well as M&E. There is a significant gap observed between policy development and implementation. More precisely, there is a general lack of coherence and consistency between policy and its implementation at all levels in the following areas:

- Implementing ongoing curricular reform
- Revisiting funding levels for education
- Upgrading the teaching profession and its conditions
- Establishing a high council of scientific and educational research and setting up the corresponding legal framework to support this entity

Improving articulation between various entities within the FMoGE to prevent fragmented efforts

Impediments to improving communication and coordination within the ministry include a lack of coherent policy direction that draws on the 2012 national education

conference and inadequate coordination mechanisms that are not always conducive to effective policy implementation or use of resources.

One example of this lack of coordination is the process of teacher provision, in which at least three entities are currently involved, notably 1) the Teacher Training Unit within the ministry, 2) the TNTC and 3) the NCEP (under the auspices of the Cabinet), in addition to the roles and functions of the MoHESR in the area of pre-service education. It has been observed that there is a lack of clear policy coordination as to the roles and responsibilities of the respective entities. During consultations with these three entities, the review mission also confirmed that a lack of coordination has been expressed as a major concern. This concern is noted in the CBR.

An absence of articulation between the formal education sector and non-formal education is another case in point. In reality, literacy and adult education represent the largest subsector outside the framework of the formal system. Most of the teachers providing instruction in literacy programmes are national service and volunteer teachers, who represent 64% of the total staff. Government teachers represent a small share, accounting for 27% of staff in literacy programmes (World Bank, 2012). In 2009, spending on literacy programmes represented 1% of total recurrent education spending. Within literacy programmes, teacher salaries accounted for 62% of recurrent spending, which is the lowest share among all education levels – notably basic, secondary and higher education, where teacher salaries accounted for 67% to 77% of recurrent spending (World Bank, 2012).

■ Discussion

The following elements are critical for narrowing implementation gaps: 1) political will and support, 2) financial resources, 3) human resources, 4) good governance and 5) feedback and positive public reception. An absence of those elements could easily become an obstacle to any type of policy implementation, hence causing policy implementation gaps.

Alternatively, if a solid and integrated implementation mechanism is in place, it enables effective interactions between people/stakeholders, policies, places/contexts and pace. It is often the case that during the policy implementation phase, the following scenarios cause policy reorientations to occur (Haddad and Demsky, 1995, p. 36):

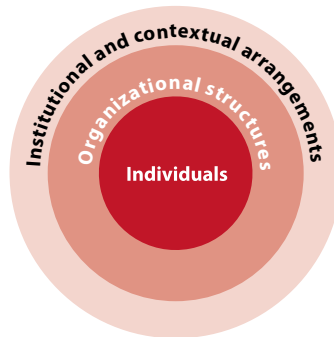
1. Circumstances related to implementation constraints cause policy modifications to take place.
2. Feedback obtained during implementation causes reassessment of aspects of policy decisions and subsequent modifications by policy-makers.

3. The mere translation of abstract policy intentions into concrete implementation causes reassessment and redesign. These changes occur with great frequency because, unfortunately, implementation problems are often greatly underestimated during the policy planning stage.

The implementation gap can be significantly improved through establishing a solid and integrated feedback mechanism, which shapes the policy implementation process and enhances coherence in the resulting outcomes. Such a mechanism involves interactions among: 1) the type of policy to be implemented, 2) the place of implementation, 3) the pace of implementation and 4) the people involved in the implementation (Sultana, 2008).

Effective implementation of policies and programmes require a wide range of capacities that are often interrelated. Technical skills should be backed up by management capacities; solid coordination mechanisms between central and regional levels of education authorities should be put in place; and the socio-political dimensions of planning – the larger institutional contexts, including legal frameworks – should be examined. Capacity needs are expressed through the three different but interrelated levels:

Figure 38: Levels of capacity needs



Source: Adapted from UNESCO, 2013, p. 26.

1) Institutional level: Strengthening of institutional capacity is necessary for the effective functioning of national education institutions and organizations, such as policy and legislative frameworks relating to human resources and management. Such regulatory and legal frameworks include both written and unwritten rules and regulations, as well as coordination mechanisms.

2) Organizational level: Strengthening of organizational capacity is necessary at the level of education institutions through the reinforcement of key functions and processes involved in education service delivery, such as planning and resource management at

the central and decentralized levels. Mandates, roles, responsibilities, organizational structures and internal coordination mechanisms are also essential elements.

3) Individual level: Strengthening of individual capacity is necessary in education ministries through the reinforcement of technical know-how and skills, competencies, and profiles of staff, including teachers (IIEP UNESCO and OECD CELE, 2012, p. 88).

■ Policy recommendations

Recommendation 1: Establish a solid strategic function within the planning unit to steer policy implementation

The current strategic function within the existing planning unit in the ministry should be reinforced, with overall responsibility for driving and coordinating policy development and implementation more progressively. The primary goal should be to set a shared and coherent strategic direction and priorities for policy reform and its implementation, drawing on the recommendations made at the 2012 national conference, through engaging a wide range of stakeholders and mobilizing external funding and resources.

Recommendation 2: Establish an institutional policy coordination mechanism/platform to enhance coordination between federal and state levels and inter-ministerial coordination, in particular between the MoHESR and the MoFNE

The current challenges include a lack of coherent policy direction and effective coordination mechanisms, which hinders effective policy implementations. Coordination and articulation between federal and states levels and inter-ministerial communication must be developed in order to guarantee the integration and cooperation of various institutions across sectors and to ensure an institutionalized mechanism for policy dialogue.

Recommendation 3: Strengthen mechanisms for policy implementation in conjunction with the forthcoming five-year plan (2017–2021)

A five-year strategic planning process (2017–2021) is currently being led by the planning unit within the ministry with technical assistance from the World Bank. To this end, mechanisms for policy implementation could be further strengthened by putting solid implementation arrangements in place that specify which entity is responsible for the overall implementation of the plan as well as which entity is responsible for specific programmes. Responsibilities and accountability need to be clearly identified through reviewing the overall structure of the ministry and the lines of authority to support the implementation of the five-year plan. The existing planning unit could be in charge of assigning implementation responsibilities and overseeing the overall implementation at the policy level.

Policy Issue 5: Education sector coordination mechanisms for more effective use of resources, and the role of UNESCO

The current education sector working group in Sudan aims to ensure better coordination and harmonization between the ministries, development partners – namely UNICEF as a co-chair with the FMoGE – the World Bank, the EU, UNESCO, the United Kingdom's Department for International Development (DfID), and bilateral donors in the education sector. The mechanism also aims to promote: 1) policy coordination within the ministries and across other line ministries, 2) policy dialogue within the education sector, 3) aid effectiveness through the alignment of various education programmes and projects being carried out in Sudan, and 4) sector-wide approaches (SWAps).

The role of UNESCO in supporting national education authorities to steer development and reform processes

As part of its mandate to be a global catalyst, UNESCO has been called upon to play an advisory role in the education sector. The Organization should provide technical assistance and policy advice in all strategic areas, including sector coordination, planning and management. Therefore there is a clear need to reinforce the technical assistance mechanism, both locally and through overall guidance and technical support from the Regional Education Bureau in Beirut and HQ, to ensure UNESCO's position in Sudan as an honest broker and catalyst for education development among national and international development partners. Indeed, the ongoing education policy review process paves the way for UNESCO to set the strategic direction for promoting education sector dialogue and coordination among the key stakeholders involved in this mechanism.

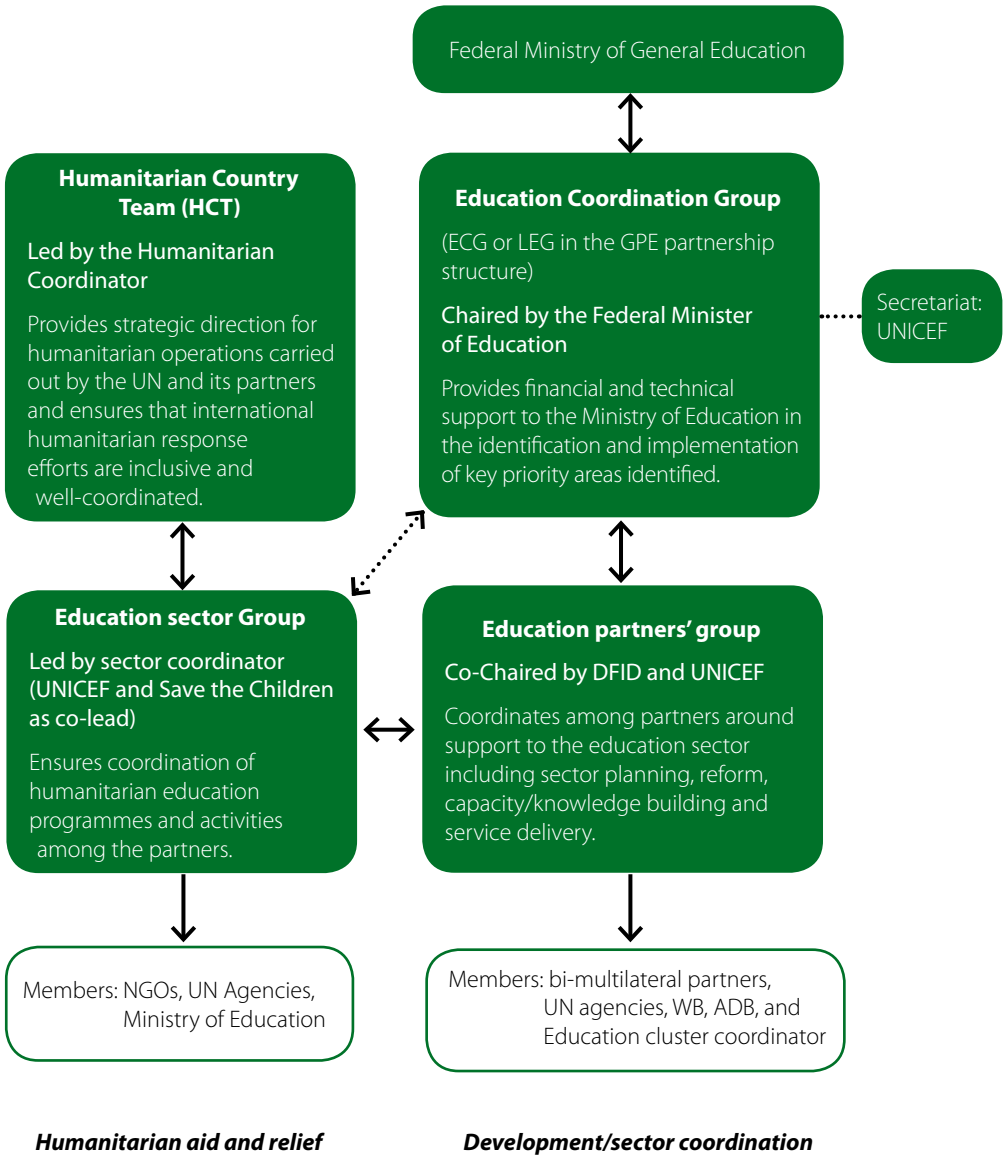
It is a very appropriate time to enhance the technical advisory role of UNESCO, in light of the implementation of Sudan's forthcoming five-year strategic plan (2017–2021).

■ Evidence

Aid coordination falls under the responsibilities of the MoFNE and the Humanitarian Aid Commission (HAC). The MoFNE is mandated to take the lead in the coordination of all external assistance as well as the Sudan Aid Strategy since the dissolution of the Ministry of International Cooperation (Elswar, 2015).

Under this institutional framework, the education sector in Sudan has been organized according to the following structure since 2012. This coordination structure aims at supporting education authorities in order to better align and harmonize policy priorities and programmes among education stakeholders.

Figure 39: Education coordination framework structure



Source: UNICEF, 2016.

As shown in the chart, the education coordination structure has two tracks, namely 1) humanitarian aid and relief and 2) development and sector coordination. The Education Coordination Group (ECG), which is under the development and sector coordination track, is being led by the FMoGE, with UNICEF functioning as a secretariat. The ECG consists of representatives of the FMoGE, development partners and civil society including NGOs. The ECG meets regularly to discuss issues pertinent to the education sector as a whole, including but not limited to (World Bank, 2013, p. 8):

- Coordination of support to the education sector by different stakeholders and agencies in line with agreed-upon education priorities
- Promotion of government–donor dialogue, alignment and harmonization; ensuring that partners are kept abreast of progress and challenges in the sector, including information-sharing on domestic and external funding of the education sector
- Provision of technical support on policy and strategic issues to address challenges to the education system
- Monitoring and evaluation of sectoral commitments in line with agreed-upon timelines

■ Discussion

As a lead agency in education, UNESCO is expected to promote sector-wide dialogue at all levels, including the country level. Another of its key functions is to operate as a “catalyst for international cooperation” (UNESCO, 2011, p. 8). Hence UNESCO Field Offices are required to initiate and facilitate dialogue with national authorities as well as with key international partners with an interest in education. In a number of cases, this function has been carried out through the ECGs in order to promote quality dialogues that will lead to enhanced partnerships, and to better aligned and more effective aid arrangements.

Such coordination is essential for translating aid effectiveness principles (ownership, alignment, harmonization, managing for results, and mutual accountability) into actions,¹¹ and in contexts where national authorities have limited capacity, which impedes their leadership.

Ideally, a sector coordination mechanism shall be organized within the sector-wide education strategies and priorities that draws on the existing policy documents and plans; this will reinforce the efficiency of policy dialogue on common development objectives. When there are no such policy frameworks in place, the sector’s primary objective should be to agree on education strategies through evidence-based planning.

11 Paris Declaration on Aid Effectiveness, 2005; Accra Agenda for Action, 2008.

Likewise an ECG becomes most effective if it operates within a larger aid coordination framework. A broad aid coordination framework also helps to mutualize the resources invested by both sides – domestic and international – for aid and development effectiveness throughout the national sectors.

■ Policy recommendations

As the education authorities are currently finalizing the next five-year strategic plan, it is timely to revisit the existing coordination mechanism. Development partners should also be committed to common development objectives by aligning and coordinating their activities. A reform-minded national education authority can contribute to steering sector dialogues.

Recommendation 1: UNESCO should play an advisory role in supporting the national education authorities to steer development and reform processes

As discussed earlier, UNESCO will play a major role as a technical advisor in the education sector, providing assistance in all strategic areas. To enable success in this area, the technical assistance mechanism should be strengthened, both locally and through support from HQ and the Regional Office in Beirut. Technical support shall be provided through the hands-on knowledge and experience of successful UNESCO field offices in managing the following areas: exchange of information and experiences; coordination; synergies; alignment with national policies; and avoidance of duplication and overlap. Technical backstopping can be also extended to the aid management information system to encourage alignment of the efforts of development partners.

Recommendation 2: Education authorities should have a strong steering role to ensure national leadership vis-à-vis other partners

A confident and strong steering role for education authorities can be built over time jointly with education stakeholders. The ultimate goal is that the government regains leadership in the development of the education system. This leadership should be accompanied by reinforced cooperation capacities supported by a coherent, evidence-based education plan that clearly sets out national priorities and programmatic areas of development for future interventions by the government and development partners.

Summary

The following table summarizes the policy issues and corresponding policy recommendations discussed in this chapter.

Table 22: Policy issues and recommendations related to sector-wide policy and planning

Policy Issues	Policy Recommendations
SWPP 1. Absence of forward-looking resource planning	<p>1.1 Establish a nationally consolidated database that can provide evidence on the status, deployment, qualifications and subject specializations of teachers in Sudan.</p> <hr/> <p>1.2 Develop a comprehensive strategy for education financing that encompasses 1) a medium-term expenditure framework (MTEF), 2) education budgets and 3) performance indicators.</p> <hr/> <p>1.3 Introduce a school mapping effort to address efficient and effective use of resources.</p>
SWPP 2. EMIS and data capacities	<p>2.1 Strengthen the current M&E mechanism.</p> <hr/> <p>2.2 Widen the scope of education data collection.</p> <hr/> <p>2.3 Develop and disseminate capacity development and training programmes.</p>
SWPP 3. Decentralization policy and implementation and its policy implications	<p>3.1 Conduct an in-depth assessment of current governance frameworks through institutional audits of the organization of the education ministries.</p> <hr/> <p>3.2 Organize a study visit with the support of IIEP UNESCO on the organization and management of the education sector: systems and institutions.</p>
SWPP 4. Policy implementation gaps	<p>4.1 Establish a solid strategic function within the planning unit to steer policy implementation.</p> <hr/> <p>4.2 Establish an institutional policy coordination mechanism/ platform to enhance coordination between federal and state levels and inter-ministerial coordination.</p> <hr/> <p>4.3 Strengthen mechanisms for policy implementation in conjunction with the forthcoming five-year plan (2017–2021).</p>
SWPP 5. Education sector coordination mechanisms for more effective use of resources, and the role of UNESCO	<p>5.1 UNESCO should play an advisory role in supporting the national education authorities to steer development and reform processes.</p> <hr/> <p>5.2 Education authorities should have a strong steering role to ensure national leadership vis-à-vis other partners.</p>

■ Conclusion

The Government of Sudan continues to be fully committed to the ongoing education policy reforms endorsed at the 2012 national education conference. Despite the limited financial resources available, steady progress has been made in terms of access to education at the primary level. Statistics prove that GERs have been steadily increasing for both girls and boys – from 63.61% and 71.76% respectively in 2011 to 66.65% and 74.05% in 2013 (UIS, 2017).

Despite the government's tremendous efforts, multidimensional disparities still persist in Sudan. Notably, there exist severe regional, social and structural disparities. A comparative analysis of GERs at various levels across the eighteen states reveals serious social divides and gender inequalities. The distribution of public education spending among people belonging to the same cohort shows that a considerable proportion of educational resources tends to be consumed by only the top 10–20% of the most educated within each generation (World Bank, 2012).

The SDG 4 targets require progress in reducing inequities across geographic location, gender and ability groups, and within crisis-affected settings. Achieving greater equity in education is not only a social justice imperative; it is also a way to use resources more effectively, increase the supply of skills that fuel economic growth, and ensure social cohesion.

Considering the size and diversity of the country, there is also an urgent need to improve data collection, management, analysis and coordination to enable the collection of more disaggregated data and upgrades to the current EMIS. These efforts will serve as the basis for more evidence-based and coherent policy and planning throughout the system.

It is hoped that the resulting policy review shall serve as an overall policy orientation to assist the government in reaching these objectives and in making strategic choices for the implementation of the forthcoming five-year plan (2017–2021) in order to make the best use of the limited resources available.

Despite the multiple educational challenges the country faces in meeting national aspirations and global demands, Sudan continues to spearhead the Dubai Roadmap in the Arab region and has the potential to serve as a role model in the region and beyond.

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