

CHAPTER THREE

SUDAN ECONOMY-CHALLENGES AND OPPORTUNITIES

3.1 Sudan: Case Study:

The unit of analysis is related to the problem of defining the “case”. A case study can be an event or an entity. It can also be a country’s economy or economic policy (Yin, 1994). The unit of analysis is related to the primary questioning of the research. Yin (2009) suggests that there can be more than one unit of analysis, depending on the research design.

Sudan is an extremely poor country that has had to deal with social conflict, civil war, and the July 2011 secession of South Sudan - the region of the country that had been responsible for about three- fourths of the former Sudan’s total oil production. The oil sector had driven much of Sudan’s GDP growth since it began exporting oil in 1999. For nearly a decade, the economy boomed on the back of increases in oil production, high oil prices, and significant inflows of foreign direct investment. (Economist Intelligence Unit)

This chapter tries to provide an overall and general background about the research problem or case study. It gives an overview of the socio-economic development in Sudan.

3.2 History:

Sudan was a British colony that achieved independence on 1st January 1956, being one of the first countries in sub-Saharan Africa to gain independence from the colonialism that occurred in Africa in the 1860s. Throughout its history, Sudan has been divided because of the Arab heritage, associated with northern Sudan; and its African heritage in the south. The two regions are: "...divided along linguistic, religious, racial, and economic lines and the cleavage has generated ethnic tensions and clashes, resulting in civil war." (Metz, 1991).

3.3 Location:

Sudan (sometimes called **North Sudan**) is an Arab state in North Africa (it is also considered to be part of the Middle East). It is bordered by Egypt to the north, the Red Sea to the northeast, Eritrea and Ethiopia to the east, South Sudan to the south, the Central African Republic to the southwest, Chad to the west, and Libya to the northwest. The population of Sudan is a combination of indigenous inhabitants of Nile Valley, and descendants of migrants from the Arabian Peninsula. Due to the process of Arabisation common throughout the rest of the Arab World, today Arab culture predominates in Sudan. The majority of the population of Sudan adheres to Islam. The Nile divides the country between east and west sides.

Sudan is situated in northern Africa, with a 853 km (530 mi) coastline bordering the Red Sea. With an area of 1,886,068 km² (728,215 sq mi), it is the third largest country on the continent (after Algeria and Congo) and the

sixteenth largest in the world. Sudan lies mostly between latitudes 8° and 22°N.

3.4 System of Governance:

According to the 2005 Interim Constitution, the system of governance is federalism. There are three levels of governance:

- a. *National governance:* for protecting the sovereignty of Sudan, guaranteeing safety of its lands and enhancing the welfare of its people.
- b. *State governance:* forms the 25 states covering the whole of Sudan and provides public services to citizens
- c. *Local governance:* available all over Sudan.

3.5 Population:

The total population in Sudan was last recorded at 34.3 million people in 2011 from 8.3 million in 1960; changing 313 percent during the last 50 years. Population in Sudan is reported by the World Bank. Historically, from 1960 until 2011, Sudan Population averaged 19.4 million reaching an all time high of 34.3 million in December of 2011 and a record low of 8.3 million in December of 1960. Population growth (annual %) in Sudan was last measured at 2.10 in 2011, according to the World Bank. The population of Sudan represents 0.50 percent of the world's total population which arguably means that one person in every 203 people on the planet is a resident of Sudan. Table 3.1 presents the population growth (annual percentage in Sudan for the periods 2004-2012:

Table 3.1 Population Growth (annual %) in Sudan

	2004	2012
Birth rate; crude (per 1;000 people) in Sudan	34.1	33.6
Death rate; crude (per 1;000 people) in Sudan	9.4	9.3
Population ages 0-14 (% of total) in Sudan	40.9	40.7
Population ages 15-64 (% of total) in Sudan	55.6	55.9
Population ages 65 and above (% of total) in Sudan	3.5	3.5
Age dependency ratio (% of working-age population) in Sudan	79.7	79.0
Age dependency ratio; old (% of working-age population) in Sudan	6.2	6.2
Age dependency ratio; young (% of working-age population) in Sudan	73.5	72.8
Population growth (annual %) in Sudan	2.5	2.6
Population; total in Sudan	31934782	32438306

Source: African Economic Outlook

From the above table we can observe that Sudan has experienced consistently high population growth, with an average rate of 2.6 per cent per annum, we can also observe that the high percentage of the working age population in Sudan (19 percent), 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.

It has been argued a lot that an ageing population weakens the competitiveness of knowledge-based economies by diminishing the economy's capacity to generate technological advances.

This discussion is very important since population represents both an opportunity as a potential driving force for the new economic development and a challenge for the government to lay down the foundation for rapid growth and for the creation of sufficient numbers of new jobs for the growing population.

3.6 Economy:

There is no doubt that Sudan has not achieved economic development in the past three and a half decades. The country's total population increased threefold, its nominal GDP increased by more than 200 times but its real GDP is declining.

3.6.1 Gross Domestic Product:

The Gross Domestic Product (GDP) in Sudan was worth 64.05 billion US dollars in 2011, expanded by 2.80 percent in 2011 from the previous year.

Table 3.2 Macroeconomic Indicators (Figures for 2010 are estimates; for 2011 and later are projections)

	2010	2011	2012	2013
Real GDP growth	5	2.8	2	2.8
Real GDP per capita growth	2.5	0.4	-0.4	0.4
CPI inflation	13	15.3	19.8	17
Budget balance % GDP	-3.1	-4.3	-3.4	-4.3
Current account % GDP	-6.4	-7.5	-12.3	-8.0

Source: African Economic Outlook

Real gross domestic product (GDP) is expected to grow modestly in 2012 and 2013 owing mainly to the loss of oil revenue and population following the secession of South Sudan in July 2011.

The secession of South Sudan resulted in an 80% decline in foreign currency earnings and a 35.6% reduction in budget revenue. Real GDP grew by 2.8% in 2011, down from 5% in 2010. This slowdown in growth is attributable to the loss of population and oil revenues and GDP growth is estimated to decline further to 2% in 2012.

Consumer Price Index (CPI) in Sudan increased to 270.40 Index Points in January of 2013 from 262.80 Index Points in December of 2012. (*Source*: the Central Bureau of Statistics-Sudan)

The inflation rate in Sudan was recorded at 47.90 percent in March of 2013 as reported by the Sudan Central Bureau of Statistics.

Sudan experienced a trade deficit of 547911 USD Thousand in September of 2012. While Exports in Sudan increased to 232890 USD Thousand in September of 2012 from 141830 USD Thousand in August of 2012 and Imports in Sudan increased to 780801 USD Thousand in September of 2012 from 735741 USD Thousand in August of 2012. as reported by the Central Bank of Sudan. Current Account deficit in Sudan is 1863.05 USD Million in the fourth quarter of 2012 while the Current Account deficit of the country's Gross Domestic Product is reported by the African Economic Outlook 7.50 percent in 2011.

According to the African Economic Outlook., Sudan has a Government Debt to GDP of 62 percent of the country's Gross Domestic Product in 2011 and a

Government Budget deficit equal to 4.30 percent of the country's Gross Domestic Product in 2011.

Table 3.3 GDP by Sector (percentage of GDP) 2006-2011

	2006	2011
Agriculture, forestry, fishing & hunting	32.9	33.1
Mining and quarrying (including oil)	9.6	10.1
Manufacturing	7.4	8.6
Electricity, gas and water	2.2	1.8
Construction	4.4	4.7
Wholesale and retail trade, hotels and restaurants	15	15.6
Transport, storage and communication	13.9	12.5
Finance, real estate and business services	6.7	6.6
Public administration, education, health & other social & personal services	5.6	5.3
Other services	2.1	2.3
Gross domestic product at basic prices / factor cost	100	100

Source: African Economic Outlook

**2012-Sudan Report Figures for 2010 are estimates; for 2011 and later are projections.*

From the above table we can summarize the following points:

- The revival of agriculture is critical for overall economic growth and poverty reduction, particularly in rural areas. The contribution of agriculture to Sudan's GDP increased from 31.2% in 2010 to 34.1% in

2011 and is expected to rise further to 39.4% in 2012. Value added in the sector grew by 9.3% in 2011 and is estimated to grow by 15% in 2012. Agriculture is the base of the country's employment with 45% of youth and 42% of adults directly employed in the sector.

- The mining sector has been heavily affected by the decline in oil production after the separation of South Sudan. The government has intensified its efforts to expand oil production from an average of 117 900 to 180 000 barrels per day (bpd) by the end of 2012. Gold has emerged as a leading export commodity, contributing USD 1.5 billion to export revenue in 2011 up from USD 0.45 billion in 2010, and revenue from gold is expected to double by 2012. There are growing environmental concerns about the rudimentary informal gold extraction activities. It is estimated that more than 200 000 workers are engaged in these activities, living in camps lacking basic facilities.
- The industrial sector, including mining, accounted for 20.3% of GDP in 2011, and its share is expected to decrease to 15.9% in 2012 due to the decline in oil production and related processing activities. Manufacturing value added increased by 10.8% in 2011 thanks to expansion in sugar and cement processing. The government continues to provide tax and other incentives to attract domestic and foreign investment in manufacturing under an ongoing diversification strategy. It is expected that manufacturing exports will reach 10% of total exports by 2013. The Barbar Cement Factory attracted USD 130 million of investment from Arab Gulf States in 2011, which should produce 1.7 million tonnes of cement per year.
- The construction sector continues to grow, driven by the expansion of infrastructure public utilities as part of government commitments under

the East Sudan and Darfur (Doha) peace agreements. In addition, the government's commitment to continued reconstruction in other conflict-affected areas, especially in Blue Nile and South Kordofan states, is expected to sustain growth in the construction sector.

- The contribution of the service sector to GDP increased from 42.8% in 2010 to 44.6% in 2011 partly because of the reduction in the share of industry and the continued expansion in financial services. However, the share of wholesale and retail trade and telecommunications in services declined as a result of population loss and increased taxes on telecommunications company profit.
- Domestic demand, including both public and private consumption and investment, contracted in 2011 following the secession of South Sudan with the subsequent loss of 75% of oil income and 20% of population. The decline in private consumption and investment is expected to continue in 2012-13 due to the negative impact of the post-separation adjustment and continued political risks arising from ongoing armed conflicts. The current account deficit was 7.5% of GDP in 2011 and is expected to increase to 10.5% in 2012. The government introduced a series of measures to contain import growth including banning luxury imports and the imposition of an import tax ranging from 50%-100% on 18 consumer commodities.
- There is growing concern that the fiscal adjustment, which focuses on spending cuts and tax increases, will seriously undermine pro-poor service delivery and the potential for long-term growth. Federal transfers to state governments, the main financing tool for service delivery under decentralization, accounted for only 3.3% of GDP in 2011, down from the budgeted 4.1% share.

- Developments in economic policy in 2011 were affected by post-secession issues, including the dispute over the Abyei area and other borders, loss of oil revenues and the impact of the latter on the government's budget, foreign reserves and the exchange rate. To confront these challenges, the government of Sudan introduced fiscal austerity and adjustment measures as well as measures to promote non-oil exports. It also continued to negotiate with the government of South Sudan over fees for transportation of South Sudan's oil through Sudan.

3.6.2 Poverty and Social Developments:

Sudan has wide and deep swaths of poverty and stark inequality between regions. Poverty estimates set the average rate of poverty incidence at 46.5% (2009 National Baseline Household Survey), indicating that some 15 million people are poor. Human development indicators remain low and Sudan ranks at 171 out of 187 countries in the 2013 UNDP Human Development Index.

Net primary school attendance rate is only 67% with huge disparities across states and gender. The 2012 Education Status Report notes the compounding negative impact of poverty, rurality, and gender, highlighting in particular that poor girls living in rural areas are among the least likely to access educational opportunities.

3.6.3 Employment:

The size of the country's economically active labor force has been difficult to estimate because of different definitions of participation in economic activity, and the absence of accurate data from official sources, particularly the 1973 and 1983 censuses. In rural areas, large numbers of women and

girls were engaged in traditional productive occupations, but apparently many have not been included in counts of the active work force.

Unemployment Rate in Sudan decreased to 15.90 percent in 2011 from 16.80 percent in 2008 (the Central Bureau of Statistics: 2008). This ranked Sudan 162 on a world-wide scale.

Table 3.4 The Unemployment Rate in Sudan with Its Percentage Changes. (2009-2013)

Date	Value	Change, %
2013	19.0	5.56 %
2012	18.0	2.86 %
2011	17.5	0.00 %
2010	17.5	0.00 %
2009	17.5	2.94 %

Source: World Data Atlas

3.7 Education:

Education in Sudan is aimed at providing equilibrium of character by satisfying physical, spiritual and intellectual needs. 62% of the population 15 years old or more in Sudan is literate. Urban literacy reached 79% of the population in this age group compared to 51% of the rural population (Amr Hamdy 2006).

Since 1991, Sudan's education system has included two years of pre-school, eight years of elementary school and three years of secondary school. Education is free for children aged 6 to 13 years, and commences with 8 years of primary education. The net primary school enrolment rate for the population 6-13 years old in Sudan is 67% (Amr Hamdy 2006). The net secondary school enrolment rate for the population 14-16 years old in Sudan is 22% (Amr Hamdy 2006).

Many vocational training centers have fallen into disrepair too, and there is little co-ordinated effort by the authorities in this regard either. What exists, is mainly courtesy of aid agencies and foreign donors, and focuses on integrating military personnel back into society.

Tertiary education in Sudan had mirrored the different phases of economic and social change in the country. The nature of the Sudanese economy and its historic inadequacies were reflected in the planning of Tertiary education. The different institutions tended to be service institutions rather than leading edge proponents of technological changes.

There are a number of universities in Sudan (about 64 colleges and universities), although it is difficult to comment on the quality of their education programs beyond hoping that they remain good.

3.8 ICT in Sudan:

Sudan has known telecommunication services as early as 1897. Since that time, the entity in charge of telecommunication had undergone a number of organizational restructuring changes. All forms of entities established were government-owned that remained, for all practical purposes, entities without

little or no operational and financial autonomy and little control over their own destiny.

The market leader in Sudan’s mobile sector is Zain. Both Sudatel and MTN, however, have increased their market share in 2008. Significant further potential exists since penetration rates are still low in all market divisions. Two fixed-line and three mobile networks are competing for customers, setting up broadband and next-generation services. Under a recent peace agreement, mobile services have expanded into the oil-rich south of the country. Zain expects to spend \$150 million in southern Sudan over the next two years.

The Sudanese government is committed to the objectives determined by the WSIS held in Geneva in 2003 and in Tunisia in 2005, as well as the internationally agreed development goals; including those contained in the Millennium Development Goals (ESCWA, 2009). Sudan has made considerable efforts to accelerate the implementation of WSIS action plans; the most important of which was the establishment of several ICT institutional bodies to play the role of regulating, planning, training and executing ICT projects and initiatives. Table 3-5 presents most official ICT institutions formulated by the government.

Table 3.5 The Official ICT Institutions in Sudan Formulated By The Government.

<p><i>The establishment of the Sudanese Telecommunications Company (SUDATEL)</i></p>	<p>Its main services include provision of mobile services, fixed-line services, and carrier and Wholesales services. Represents a major step to develop the Sudanese telecommunications infrastructure, and to exploit the Sudanese revolution in communications and information</p>
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<i>The establishment of the National Telecommunication Corporation (NTC)</i>	NTC was formed with a view to provide an effective regulatory framework and adequate safeguards to ensure fair competition and protection of consumer interests
<i>The establishment of the National Telecommunications Council</i>	Carries the heaviest burden in presenting plans and supporting programs for implementing the strategy of the State
<i>The establishment of the Ministry of Sciences and Technology</i>	The Ministry is responsible of supervising IT, namely in areas of research and technology
<i>The National Information Centre (NIC)</i>	The Centre was established as a response to the WSIS goals and recommendations. It is one of the largest institutions working under the command of the Ministers' Council (at a time) and considered as the main body responsible for implementing most IT projects including government
<i>The establishment of the Ministry of Information and Communication Technologies</i>	The duty of the ministry includes laying down the policies of communications. The Ministry's main focus is to facilitate the communications services

Source: (ESCWA, 2009; Sudan and NTC, 2008)

Table 3.6 provides a snapshot of the state of ICT infrastructure in the country:

Table 3.6 ICT indicators in Sudan (2012)

Indicator		Country Rank
Telephones - main lines in use	425,000	101
Telephones - mobile cellular	27.659 million	38
Internet users	4.2 million	56
Computer penetration	10 inhabitants	-
ADSL	Introduced in 2004	
Internet hosts	99	210

Source: *Source: World Data Atlas*

There are about 4,200,000 internet users were in Sudan in 2012 approximately and 25,107,000 mobile phones in Sudan.

The government efforts for the advancement of the information in the sector includes: developing a national strategy for the IT industry, establishment of additional institutions of information, including the National Information Center, developing the legislative and legal issues; and the adoption of projects for electronic literacy. The strategy focuses on five major areas: technology (infrastructure e), human resource development, software industry development, content (Arabic reservoir), and geo-information.

3.8.1 ICT and Education System in Sudan:

The ministry of education in Sudan considers the development of ICT education a priority putting into consideration that ICT graduates are the drivers knowledge economy [World Bank, 2001],

The ICT policy for education was launched in 2002. The Information Directorate and Curriculum Centre and Training Directorate are the entities managing the implementation. In 2004, ICT was introduced in secondary education curricula. A number of computers were installed in schools (around 50% of secondary schools), at an average of 10 computers per school. In schools the connectivity is mainly through dial-up and ADSL. However, in higher education systems, it is through ADSL only. The country is planning to have computers available in all education levels by the year 2015 as agreed to at the ICT summit in Geneva.(World bank-Sudan ICT report-2004)

The ICT curriculum has been introduced at Grade 4. The teachers have been trained on the basics of ICT. Both the government and the private sector

provide access to the Internet as a learning resource (World bank-Sudan ICT report-2004)

Table 3.6 provides a summary of the current stage of ICT development in Sudan in terms of enabling or constraining features in the education system.

Table 3.7 Factors Influencing ICT Adoption in Sudan

Factors	Enabling Features	Constraining Features
Policy framework and implementation plan	The national ICT policy was formulated mid-1999 and followed in 2002 with a national ICT policy on education, targeting mainly infrastructure, access, developing content, and human resource development	Outreach to rural and remote areas still poses a considerable challenge. Poverty, lack of resources, and political unrest puts ICT lower on the priority list of basic needs in most areas of Sudan.
Advocacy leadership	A high ministerial committee was formed to oversee the prompt implementation of the national ICT policy, as well as the supervision of the Information Directorate and Curriculum and Training Directorate for the implementation of the education ICT policy.	Political unrest and civil war hinder nationwide implementation.
Collaborating mechanism	The Sudanese government has budgeted future revenues for infrastructure refurbishments and a Multi-donor trust fund (MDTF) was created to support development projects. The UNDP is also supporting the government heavily through its ICT institutions to collectively share the interventions that promote ICT for human development.	
Human	One of the major areas of concern	Skilled, trained staffs who are

resources	of the national ICT policy formulated in 1999 is human resource development.	well acquainted with the ICT tools are very limited. They also tend to prefer the private sector to government positions.
Support	The government encourages investment and is paving the road for public-private partnerships as a means of offering more venues and creating better opportunities for the implementation of the ICT vision. Sudan is increasingly attracting attention from international investors interested in the oil revenues. These have attracted investment from Kuwait and UAE, and open the door for encouraging more investment.	Financing and donor interest in Sudan remains limited, especially with the number of embargos that were imposed.
Rural/urban divide	The efforts of the government remain focused on outreach to all parts of the country.	There is a huge digital divide between rural and urban areas, especially in relation to computer literacy, and access to telecommunication infrastructure countrywide remain alarmingly low.
Learning material	Provision of content is among the five founding pillars of the national ICT policy. The government is focused on building a strong reservoir of Arabic content reflecting the culture and tradition of the region, and being accessible to a wide population.	Arabic electronic content greatly lags behind. Educational material and curriculum need total restructuring and rebuilding. Traditional and longstanding material and curriculum are still in use, which do not comply or meet with the needs of modern society.
Gender equality	A number of informal education projects target women as an under-served sector of the society. Women's participation and inclusion is also slowly increasing	Female participation in public life in general and education and in the workforce in particular remain fairly low due to longstanding cultural

	on the government level.	factors and traditions.
Sustainability	The peace treaty signed in 2005 sets the grounds for more stable implementation of projects in different domains. A number of international development agencies, NGOs, and civil society organizations are dedicated to the development process with particular emphasis on education.	The political instability in Sudan is a great hurdle that impedes the development process.

Source: Survey of ICT and education in Africa: Sudan country report

3.9 Governance in Sudan:

Sudan is known for its rich resources, and in some way, protracted conflicts in the country are correlated with mismanagement of resources and uneven distribution of the development projects and social services. Reconstruction of governance and especially economic governance has to deal with all these factors.

The rule of law remains fragile and uneven across Sudan, especially after the secession of South Sudan. There is little respect for private property, and the legal framework is severely hampered by years of political conflict.

The net primary school enrolment rate for the population 6-13 years old in Sudan was 69% for males and 64% females. For secondary education it was 21% males and 23% females. In terms of labor force participation, males constitute 38.3% while the share of females stood at 14.1%. According to the available recent data, unemployment among men stood at 13 %

compared to 20% for women. Women occupy 28% of the seats in the newly elected parliament in 2010.

A subjective governance indicator aggregated from a variety of sources and measuring perceptions of the following concepts: the incidence of market-unfriendly policies (such as price controls or inadequate bank supervision), and perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development.

Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

3.10 E-Government in Sudan:

3.10.1 E-government: Definition:

“E-Government is the use of information technology, in particular, the internet, to deliver public services in a much more convenient, customer-oriented, cost effective, and altogether **different** and **better** way(*Douglas Holmes: 2012*)

3.10.2 Sudan E-government initiatives:

For Sudan to flourish and prosper need to become innovative users of Information and Telecommunication Technology (ICT), and have a high performing government that providing efficient electronic services to all citizens, thus there are some public sectors institutes initiated to adopt and implement web services to provide, deliver and disseminate services and information to the public such as the following institutions:

1. MOHE E-Government initiative:

MOHE (Ministry of Higher Education) established National Universities Network (NUN) project with aim of facilitating access to information and delivering services electronically. Therefore, there are two main initiatives under the NUN project:

- The Sudanese universities information network
- The Sudanese universities virtual library

The goal of these initiatives is to provide connectivity among educational institutions, increase sharing of knowledge, guide the universities and the institutes to build their information infrastructure and enable digital libraries. This project has serves a large number of students and staff members.

2. EBS E- Government initiative:

In 1999 CBOS (Central Bank of Sudan) established EBS (Electronic Bank System) to introduce technological banking solutions with aim of linking the banks electronically through the country and provide electronic payment services in and out of the country. EBS started its activity in mid 2000 and began project implementation in early 2001. This initiative results in changing the old bank system to modern fast and efficient bank systems, due to EBS adopted several services such as National Electronic Cheque Clearance, Card Personalization Services and Banking Information Network Services etc.

3. NEC E- Government initiative:

The NEC (National Electricity Corporation) developed prepaid electricity services to eliminate the bills loses due to the old system implementation. With the adoption of the new system the NEC provide every customer with identification card and number to make the services easy and fast, so even the customer can order the electricity through his mobile device. NEC

carried out its initiative and the process of change and use of ICT was introduced in the all departments of NEC.

4. MI E-Government initiative:

Ministry of Interior established a company in 2006 in order to introduce E-Government initiatives in its work. The MI is concerned with computerizing the police work to gain the technologies advances. The company has two initiatives which are E-passport and the Civil Registration Record (National ID). As the result of the use of technology in MI daily official work the services delivery to citizens has improved.

3.10.3 E-government in Sudan as compared to Arab world:

The majority of Arab leaders have acknowledged the necessity of utilizing ICT in their governmental operations. Although it is still early for e-government to take root in most Arab states (Pons, 2004), e-government projects have been widely endorsed as a solution to a variety of concerns in public sectors in the Arab World (Salem, 2006). See **Figure 3-1**

Figure 3-1 E-government readiness in the Sudan as compared to Arab World (UN, 2008b)

