



SUDAN ECONOMY RESEARCH GROUP
DISCUSSION PAPERS

Sudan in the 21st Century: Seeking Pathways Forward

Mohamed al Murtada Mustafa, Former Undersecretary of Labor, Ministry of Labour, Sudan and Former Director of ILO Offices in Harare and Cairo

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Diskussionsbeiträge

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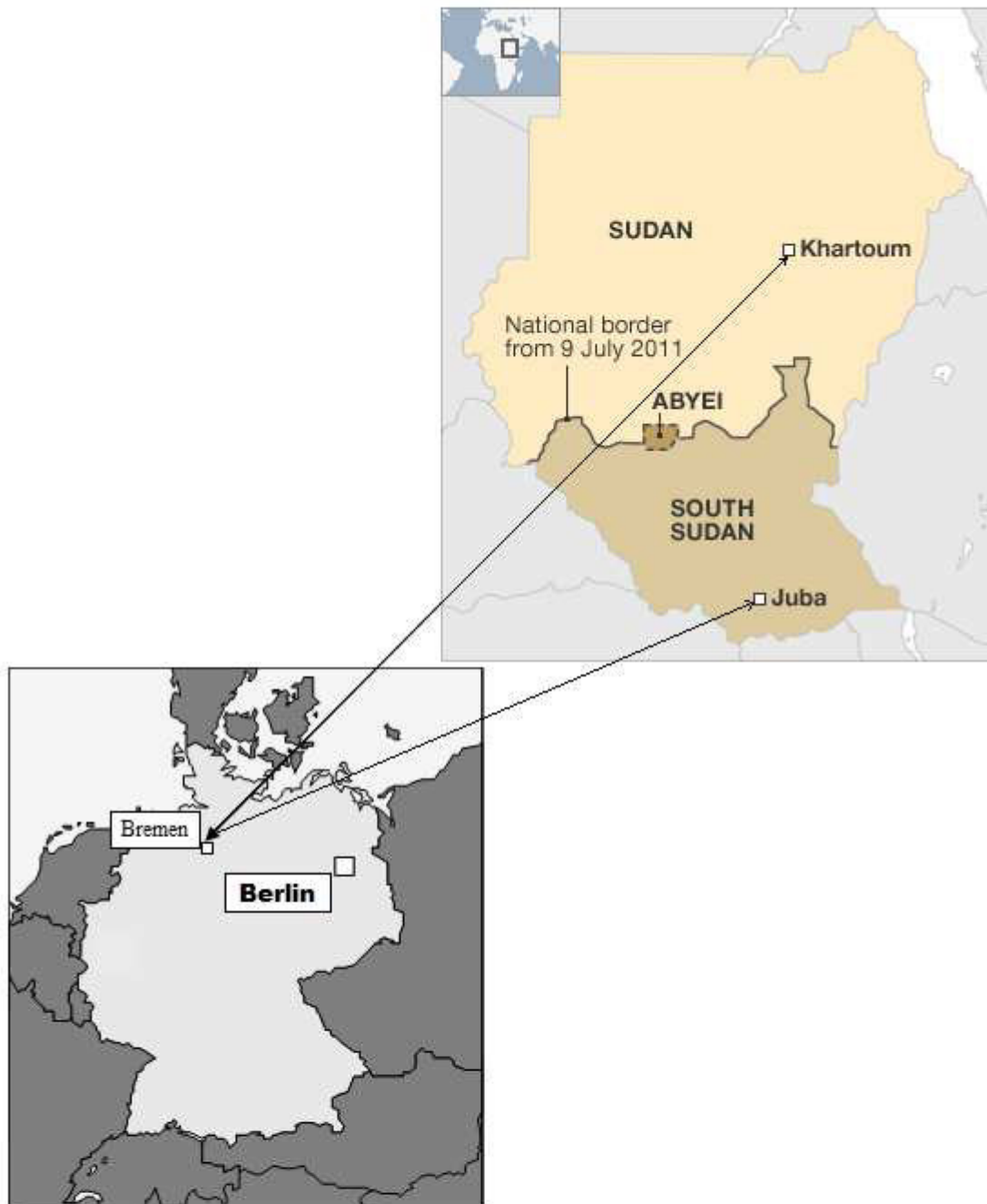
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Sudan and South Sudan



Sudan Economy Research Group

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“Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice: all the rest being brought about by the natural course of things.”

Adam Smith

February 2, 2018

Dr. Mohamed al Murtada Mustafa¹

Dr. Murtada was the first permanent Undersecretary for Labor in the Sudan, the Director of the African Regional Labor Administration Centre (ARLAC) for the English-speaking African countries in Harare, Zimbabwe, and then the Director of the International Labor Office in Cairo, Egypt before retiring to academic and philanthropic endeavors in Khartoum. He was educated at Addis Ababa University, Harvard University, the University of Wisconsin, Northeastern University, and the International Institute for Labor Studies in Geneva.

¹ Dr. Murtada extends his deep gratitude to Dr. Marie Besançon for assisting in researching and writing this paper. He also thanks Mr. Saif Abdel Hamid and Mr. Hadeer Adel Edriss Mosnad for their invaluable research and assistance. Dr. Murtada has followed the different International Labor Office (ILO) studies on development in the Sudan from his days in the Ministry of Labor through his tenure at the ILO. Throughout the years he consulted with notable colleagues, such as Dr. Harry G. Miller (formerly at the American University in Cairo) and Dr. Karl Wohlmuth from the University of Bremen in Bremen, Germany, who provided valuable commentary on the paper. Professor Karl Wohlmuth has as well re-edited the paper for the Sudan Economy Research Group (SERG) discussion paper series.

This paper employs quantitative and qualitative methods and draws from primary and secondary resources as well as interviews. The author gleans from his decades of experience in the field for this latest of his efforts to publish on development, poverty alleviation, and employment in the Sudan.

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Abbreviations and Acronyms

AfDB	African Development Bank
ARLAC	African Regional Labor Administration Centre
BCE	Before the Christian Era
CIA	Central Intelligence Agency
CMI	Chr. Michelson Institute
CPA	Comprehensive Peace Agreement (of Sudan)
CPI	Corruption Perceptions Index (of Transparency International)
CSS	Center for Security Studies
DAL	Osama Daoud Abdellatif is the owner (of DAL group of companies named according to the initials of his father)
ENCOP	Environment and Conflicts Project
ETH	Eidgenössische Technische Hochschule (Zürich)
EU	European Union
FY	Fiscal Year
GDP	Gross Domestic Product
GNI	Gross National Income
HDI	Human Development Index
HWP	Humanitarian Work Psychology
IDA	International Development Association (of World Bank Group)
IDPs	internally displaced persons
IFAA	Institute For African Alternatives UK
IGAD	Intergovernmental Authority on Development
ILO	International Labor Office/International Labor Organization
IMF	International Monetary Fund
IWIM	Institute for World Economics and International Management
LDD	Land Degradation and Development
LPI	Livestock Policy Initiative (of IGAD)
ODA	Overseas Development Assistance
OECD	Organization for Economic Cooperation and Development
OSSREA	Organization for Social Science Research in Eastern and Southern Africa
PRI	Peace Research Institute, Khartoum, Sudan
R&D	research and development
SCBoS	Sudan Central Bureau of Statistics
SD	Sudan
SERG	Sudan Economy Research Group
SSU	Sudanese Socialist Union
STI	Science, Technology and Innovation
TI	Transparency International
UK	United Kingdom
UN	United Nations
UNaPs	United Nations and Partners (Work Plan for Sudan)
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
USIP	United States Institute of Peace, Washington DC
VAT	Value Added Tax

Abstract

The earliest studies by the International Labor Office in conjunction with the Sudanese Government and the University of Bremen (Sudan Economy Research Group/SERG) in 1976 up to today repeat almost the same recommendations to enhance and improve the Sudanese economy. The recommendations were: Improve infrastructure; develop industry; link agriculture to manufacturing; increase vocational and technical training; reform taxes to encourage exports; and institute rule of law, contract enforcement and transparency to encourage foreign investment and to regulate macroeconomic policy. Whether from lack of political will, leadership, economic means, or external financial investment, the neglect along with conflict and international sanctions has continued to disintegrate the development options in the Sudan.

After decades of conflict, the government now faces the burden of repatriating internally displaced persons and providing training and jobs to replace redundant cattle-herding livelihoods and other agricultural endeavors in depleted environments. While the discovery of oil brought revenue before the great country of the Sudan split into two republics, it was not properly employed to expand and develop the abundant natural resources. The agricultural sector, the industrial sector, the civil service, and the education sector deteriorated from the satisfactory state they were left in by the British at independence.

This study outlines changes necessary to get the economy back on track in five major sectors stemming from and supporting institutional revisions: *education, entrepreneurship, agriculture, industry, and management*. While the short-term and the long-term solutions are outlined, the Sudanese people themselves need to pull together, to stop competing for power and land, to produce and support fresh leaders, and to begin to consider the long-term conditions of the country for the good of its own people.

I. Introduction

“Water in the boat is the ruin of the boat, but water under the boat is its support.”
Rumi

It should be possible in the 21st century to create a modern economy and to develop a viable labor market in the Sudan. Creating permanent rather than temporary employment or emergency relief is more crucial than it has ever been in the country’s history. This large nation state has enormous agricultural production areas in its central and eastern borders; it has industry, mineral and hydrocarbon resources; and it has human capital in the country, but also in the Diaspora. Its geographical position places it as a strategic gateway from the Red Sea to East, Central, and West Africa—as well as a bridge from Africa to the Saudi peninsula, and as a security flank for Egypt’s southern border.

The Sudan needs advanced technological resources for building a sustainable economy, but foremost it needs institutional reform to implement the necessary changes for growth and development. Its political economy is key for movement forward, defining the relationship between the duties of the governments, the ministries of labor, agriculture, education, industry—and the responsibilities of the people. People must be involved in governance and the economy; creating a social contract between the government and the governed is necessary. Good leadership is vital to foster institutional change and progress in five key areas that could transform the country: education, entrepreneurship, agriculture, industry, and management.

Historically and morally, the Sudan has an obligation not only to its own people for development—including equity, employment, and human development—but also to the region, as they are irrevocably intertwined. The new direction must put people first; and it is necessary to direct institutional reform towards fairness, inclusiveness, and sustainability. In addition to requiring the all-important overlay of accountability, there must be a call for unity and commitment of vision from the Sudanese people *for what* is to be achieved, *how* it is to be achieved, and *for whom* it will be achieved. Skilled, well-trained, and educated Sudanese people from both private and public-sector organizations are vital ingredients for a successful implementation of good strategies.

Though the first two decades after the Sudan’s independence started with steady but low growth and little unemployment, and the 1980s set a backward trend.² The wars in the south and west had serious negative impacts on the developing economy; the sanctions stemming from the most recent regime had harmful effects; negative effects came from poor policy implementation; and the permanent impact of the split with the south created serious economic problems for which the Sudan was not prepared.³ The Sudan, though it has the

² Darbo, Suwareh & Yousif Eltahir, 2017: The Country Report Sudan mentioned a 3% growth rate for 2016 and projected a moderate increase for 2017-18.

³ Sudan was left with only 25% of the former country’s oil reserves, putting an end to its short burst of fast economic growth, while having neglected development of agriculture and industry. As a major exporter of oil Sudan reaped \$12 billion in 2008, while revenues were dropping to \$2 billion in 2012 (See: Sergey Kostelyanets. 2016). On the Human Development Index (HDI), the country ranked as number 154 out of 169 countries in 2010 and ranked as number 171 out of 187 countries in 2013 (UNDP, Human Development Reports).

requisite tools for advancement in all areas, including human and natural resources, continues to lag behind other developing countries in Africa and in other world regions.

A strategy to meet the requirements of the 21st century labor market in the Sudan requires creating a modern macroeconomic framework as well as the qualitative expansion of communication, knowledge creation, innovative activity, and creativity. In 1985, two thirds of the Sudan's technical and vocational manpower as well as about 40% of the unskilled laborers were working abroad or seeking jobs outside of the Sudan.⁴ The focus of the Sudanese institutions should be to develop the country to make it profitable and attractive for Sudanese to come back to Sudan and to participate in the future and to contribute to prosperity of their country. In 2012, unemployment was close to 15% according to the World Bank—and the situation is serious especially when looking at the people in rural areas, the people surviving in informal sector activities, and the disappointed people who stopped seeking work via official labor market channels.⁵ The highly trained and skilled Sudanese flee the country for greener pastures outside the Sudan.

Over time, the ILO (International Labor Office) conducted multiple studies on poverty reduction and economic development with recommended strategies, including the 1976, 1986, 2003, and 2014 reports.⁶ Many of the strategies remained quite similar and consistent over the four decades, indicating little government implementation and minimal results. Shifts in policies were introduced to accommodate the overall deterioration of the economy, the decrease in real wages, and the increase of unemployment and poverty rates. Disagreements on a vision, a contentious leadership, and poor management of the economy and of public companies, led to inefficiencies and inaction and were engendering further economic deterioration and entrenchment. Quite apart from the obvious requirements of ceasing conflict, creating a stable government, legally constraining terms of power, introducing clear forms of representation, and mitigating repression, the Sudanese (people and their government) urgently need to create a *strategy* for a modern economy that provides productive jobs for the huge number of the un-skilled and semi-skilled laborers, and for the newly minted university graduates.

Since 1975, successive governments of the Sudan tackled inflation and budget deficits by employing temporary and partially subsidized rescue measures for short and medium-term reforms. Little focus was given to a long-term strategy, to the living standards of the population, and to the participation of the labor force in the labor market. The strategy of the governments, in a society with constant underlying discontent and persistent conflicts in the periphery, has been to increase the size of the government and the number of government employees—all paid from the central budget. This drained resources without creating a strong underlying economy. Furthermore, conflict and fear of conflict were very expensive. A 2009

⁴ ILO/International Labor Office, Sudan Report 1986; Voice of America, 2013 <<https://www.voanews.com/a/tired-of-economic-crisis-sudan-laborers-professionals-emigrate-brain-drain/1661493.html>>; and Sudan Tribune, 2015 <<http://www.sudantribune.com/spip.php?article57123>>.

⁵ SCBoS/Sudan Central Bureau of Statistics, 2011, reports unemployment among the youth at 29% in Darfur, 29% in Gezira, and 23.5% in Khartoum.

⁶ Prior to the main ILO/International Labor Office 1976 study the ILO sent preliminary missions which included: Prof G. K. Goundrey (Univ. of Newfoundland), Dr. S. B. L. Nigam (ILO), Mr. G. Feral (ILO), and Mr. S. Asklund (ILO). See on the other International Labor Office reports: ILO 1986, ILO 2003, and ILO report 2014. The HDI (Human Development Index) reports by UNDP (UNDP, accessed 2018), the EU (European Union) reports (see on the Delegation of the European Union to Sudan: https://eeas.europa.eu/delegations/sudan_en), and the IMF (International Monetary Fund) reports (such as IMF 2013), as well as collective reports from the UN (United Nations) and its partner organizations (United Nations and Partners 2013) add to the knowledge base on key reforms which are needed for Sudan.

Chatham House report (Thomas 2009) revealed that 40% of the Sudan's total government expenditure went on defense, security and public order in 2006.⁷ There is a serious lack of data about the current share of defense expenses; in the meantime, conflicts and fear of conflicts prevail, leading to further rounds of higher defense expenses.

Lack of political will, to transform the Sudan into an inclusive democratic nation with socially advanced institutions and productive public spending, as well as the secession of the south, have negatively impacted the present and the future of the Sudan *and* the South Sudan. The arbitrary confiscation of property and crippling tax increases give little incentive to work, to invest, and to create wealth. The guarantee of property rights and the returns to invested capital should be the main stimuli for investors to increase their participation in businesses and growth.⁸

In the last two decades, the Sudan experienced the pitfall of relying wholly on oil revenues rather than using the resources to bolster the agricultural and manufacturing sectors.⁹ Instead of maintaining agricultural production sites and the multiple manufacturing plants in Khartoum and other cities, such as Nyala and Port Sudan, the factories have fallen into disrepair, while agriculture has become unsustainable, partially due to drought and desertification, as well as due to war destruction and mismanagement. The cost of cattle and stock trade has spiraled out of reach. The Sudan should garner the most advanced technologies available for oil development and use the revenues for modern mechanized agricultural and industrial ventures.

The primary economic strategy of a nation state begins with investment in human capital and in quality education, updating from time to time the related institutions. There is no one single pattern for all developing nations. The Sudan has experienced unprecedented growth rates over the past few decades, but this type of growth has not translated into human development. The Sudan has increased its infrastructure in and around the capital and has created some connections between the major cities, but the Sudan has not had a strategic plan that benefitted the welfare of the disadvantaged people or those in the periphery.¹⁰ Large-scale housing development programs on the Nile River for the wealthy do not bring jobs or benefits to the less well-off people—the money is accumulating in the coffers of the banks, some government circles, and the investors.

Economic strategies necessarily stem from political thought (as affirmed by John Maynard Keynes) and from social structure. But, political and economic strategies are also the outcome of the interests that serve it. The political experiences of the Sudan are not cohesions of modern political thought with the economic interests that serve it but are a continuation of old thought patterns that are not necessarily in line with present international norms, nor are they adapted to the local perceptions and needs of the people. As aforementioned, the roadmap for the Sudan has been created and re-created by numerous plans, proposals and programs—but

⁷ Thomas, 2009

⁸ Darbo, Suwareh & Yousif Eltahir, 2017

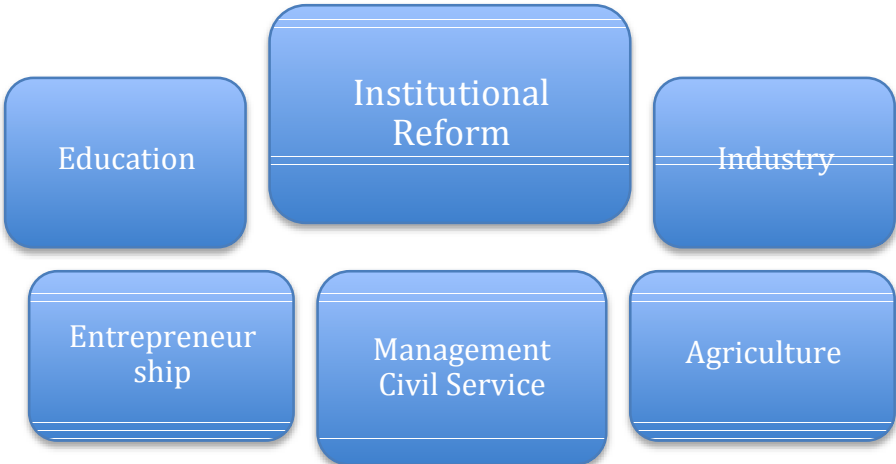
⁹ Siddig 2014

¹⁰ The 2014 CIA World Factbook reports 4,320 km of paved roads in the Sudan, 7,580 km of unpaved roads (this data point from 2000), 5, 978 km of railways, 16 airports with paved runways, and 58 airports with unpaved runways. In South Sudan, few of the 7,000 km of road are paved as estimated by the 2010 CIA Factbook – the same reported again in 2014. According to an employee of the river transport, currently two large co-owned private companies operate 23 river barges capable of carrying 2,000 tons each. Some smaller companies have rehabilitated 11 older barges now in operation. A German company is planning some dredging to reduce the trip time from fifteen days north to south, to seven.

where are the qualified politicians and technocrats to follow it or to revise it to current real relevance?

Economic policy should be bolstered by the efficiency and skills of those who undertake and implement it. The state should be dedicated to preventing the exploitation of workers, leading to a broader production base, fair income distribution, and the eradication of poverty. The will for tackling any problem innovates its solution. Because of this it is high time to design a strategy that attains growth and employment equity. Such a strategy can be informed not only by lessons from the numerous emerging economies, but from the rich and long development history of the Sudan itself. The Sudan needs an evolving strategy that maintains a problem-solving outlook, while drawing on an innovative *education* system that includes management, leadership, and entrepreneurship. Creative and innovative leadership with the capacity for decision-making, broad-based participation, youth engagement, the use of advanced technology, and community-driven development, are crucial ingredients. The pillars of such a strategy need a collective regional vision, effective local participation, and rule of law with priorities in a few basic areas outlined below (see figure 1).

Figure 1: Strategic areas for policy reform, reconfiguration, and financial injection to promote growth and employment.



Source: Author

This strategy can begin with improving the quality of the institutions that are already in existence but lack the personnel with skills and capacity to provide governance. Then the ministries and governing bodies should focus on the essential areas that can provide development, employment, and growth.¹¹ The key areas that should be targeted are **education, entrepreneurship, agriculture, industry, and management/civil service**. The new direction must put people first and direct institutional reform toward fairness, inclusiveness, and sustainability that can direct these strategies towards growth and full employment in the country.

¹¹ The University of Khartoum, with the assistance of a visiting fellow from Portland State University, is creating a master's program (taught in English) that includes public policy and public administration, providing one of many steps in education improvement.

Rather than blaming uncontrollable factors such as the environment and declining oil revenues, or factors such as rising military and defense costs, civil unrest, and international sanctions, the focus should be on what *can* be done with adaptive creative management at all levels of the Sudan's social, economic, and political sectors. The Sudan will have to find its own unique path to progress. The following chapters examine each of the above-mentioned sectors of education, entrepreneurship, agriculture, industry, and management/civil service—and ask how improvements in each area could contribute to the growth of the economy, to employment, equity, and to the general development for the Sudan.

II. Building Capacity, Growth, and Employment through *Education*

“An excellent plumber is infinitely more admirable than an incompetent philosopher. The society which scorns excellence in plumbing because plumbing is a humble activity and tolerated shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water.” John W. Gardner¹²

The Universal Declaration of Labor states in its preamble that its aim is to alleviate poverty that threatens the welfare of any population.¹³ The foundation for universal employment is building capacity through education. Building sustainable development - that transcends the boundaries of local communities and regional provinces to a national presence—resides in education, and in specific comprehensive education opportunities that include explicit types and levels of offerings, programs and degrees. Institutions and programs must include ‘career skills’- based curricula, as well as cultural and heritage programs.¹⁴

It is of the highest importance for the Sudan to invest and to advance education with vision, funding, and commitment. Education can provide women and men with the capabilities and with the hope to build their country. Thus, this strategy aims at achieving a comprehensive and effective participation in the labor market so that everyone gets the opportunity to obtain productive work. The general theory or model for the development of labor markets requires economic institutions that allow participation of the people in the decision-making processes, and leads to advancements of productivity, health, and welfare.

Education *and* health determine the level of productivity and wealth that a country can achieve. Furthermore, health, education, and wider welfare are the result of development. The educational system installed by the British in the Sudan had a certain depth and breadth; supplying the graduates with the requisite knowledge for their future careers. The boarding school system implied a policy of exchanges that ensured that students from all regions of the

¹² Secretary of Health, Education, and Welfare under U.S. President Lyndon B. Johnson.

¹³ ILO, accessed 2018, ‘ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up’, accessed at: <<http://www.ilo.org/declaration/thedeclaration/textdeclaration/lang--en/index.htm>>

¹⁴ Sudan had its origins in an amalgam of old kingdoms - Kush, Nubia, Magarra, Alwa, Funj, and Fur – which were followed by an overlay of the Ottoman Empire, the Mahdia, and the British administration, ranging from the first millennium BCE (Before the Christian Era) to the twentieth century. From this long historical blend, a Sudanese identity, particularly in northern Sudan, was established. Within the range of these cultural identities, historically it was the British (1898-1956, the year of Sudan's independence) who introduced early modernization; with an administrative civil service, education, modern irrigation schemes, railway transport, public health facilities, and a nucleus of the current military structure.

Sudan lived and mixed with one another during their middle or secondary school tenures. The protocols for textbook and curricula writing as well as teacher training were rigorous.¹⁵

Over time and with government, regime, and ministry changes, much of the rigor, depth, and breadth of education was lost. Though the Sudan sought to align itself with the Arab world's educational system and language—it effectively created a shallow and broader coverage, eroding the potency of education left by the British.¹⁶ This system took away the advantage of advanced global English knowledge—crucial for the internationalism to which the older generation is privileged, but the younger people are not given a chance for it. Steps to return to a solid system of education and training are therefore vital for not just international standards, but business and commerce.

The principle ingredient for a quality educational system is a substantial budget. The Sudan's budget for education is among the smallest of the developing nations, while its expenditure on its military is one of the largest.¹⁷ Furthermore, the quality of teacher training has plummeted along with the prestige and respect that the teachers and professors used to hold in the country. This is not just a Sudanese issue, but is prevalent worldwide, much as the issue of revitalizing the public-school system is of paramount importance everywhere. If only the private schools can supply a quality education, then the gap between the rich and the poor grows wider. Producing and maintaining an exceptional public education system which is available to all is the obligation of the government.

Not only in a country like Sudan, but also in all East African nations with high poverty rates and multiple ethnicities, education must be available freely and fairly to all people. With only 2.7% of public spending (World Bank, 2013 Report No: 80051-SD) on education in the Sudan (other sources, such as *Dabanga Sudan*¹⁸, report less than 1.5% of GDP spent on education in the Sudan), a reform of the education system will not be possible.¹⁹ Expected years of schooling for youth in the Sudan are 4.5 compared to 11.3 in Burundi where the equivalent GNI per capita is less than one third of the Sudan's.²⁰ Education is also the basis of participatory politics and democracy. Few countries have sustained growth without considerable public investment in infrastructure, health, and education (UNDP, Human Development Report, 2013). The following figure (2) shows the comparative spending on education and the military as a percentage of the annual budget versus the GDP per capita in several of the major African countries, including the Sudan. The Sudan is at the lower end of the scale for spending on Education and at the higher end of the scale for military spending (using World Bank 2016 data).

¹⁵ Interviews with former Minister of Education, a University of Khartoum professor, and an article by Professor El-Tom, 2014, all highlight the great advantages of the quality teachers and material produced by Sudan's Bakht al-Rida teachers training college.

¹⁶ Warburg, Gabriel. 1971; During the Ottoman regime 12 modern schools were established (as opposed to the Khalwas) in the Sudan. The Khartoum secondary school that dated from that time (1820s) taught English, Turkish, and Arabic.

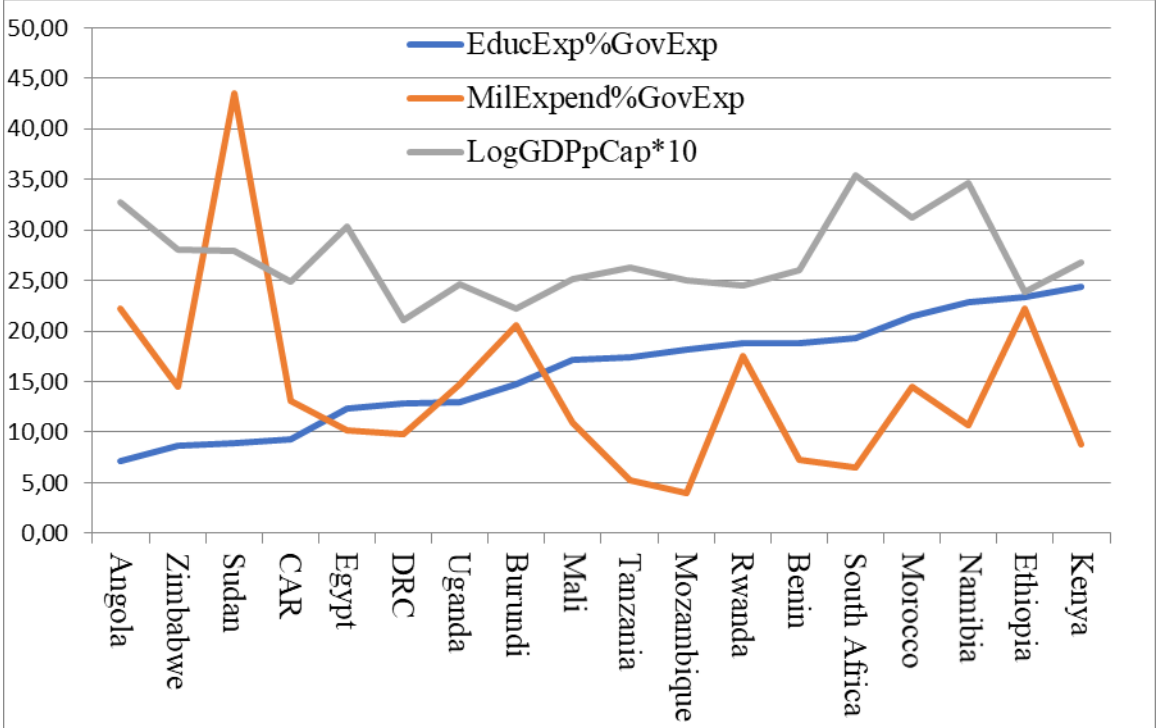
¹⁷ Besançon, Elfaki, and Swaminathan, 2017; World Bank Data, World Development Indicators 2016.

¹⁸ See on Radio Dabanga: <https://www.dabangasudan.org/en>

¹⁹ 'Sudan Spends Less than 1.5% of its GDP on Education', 2017. *Dabanga Sudan*. Web Access: <https://www.dabangasudan.org/en/all-news/article/sudan-spends-less-than-1-5-of-gdp-on-education>

²⁰ UNDP, 2013, Human Development Report 2013; Besançon, Elfaki, and Swaminathan, 2017; World Bank Data, World Development Indicators, 2016, World Development Indicators show 1.0% Expenditure as percent of GDP in 2000 and 2.2% in 2009.

Figure 2: Expenditure on Education and the Military as a percentage of government expenditures with GDP per Capita (Average from available data 1967-2015 from a sample of African nations)



EducExp%GovExp = Education Expenditures as percentage of Government Expenditures
 MilExpend%GovExp = Military Expenditures as percentage of Government Expenditures
 LogGDPpCap*10 = Log of GDP per Capita*10

Already in 1976, the ILO report (ILO 1976) indicated a concern over the large number of students entering the university, a share being disproportionate to terminal graduates from primary and secondary schools. The report recommended a restructuring of the final examinations for the secondary school to make it work as a diploma itself rather than as a *de facto* entrance examination for the university.²¹ Many students graduating from universities by the 1980s were unable to find jobs, a trend that the subsequent reports highlighted continuing to 2014.²² The above mentioned studies over the decades emphasized the need for vocational training apart from the formal education system, and indicated that there were too many university graduates with too few jobs. The Sudan needs a cultural acceptance of technical expertise as well as of classical education fields. The elite must also value skills—not just degrees.

²¹ The 1976 mission was headed by Just Faaland (Chr. Michelson Institute, Bergen Norway). He consulted with the Minister of Public Service and Administration Reform Abdel Rahman Abdalla, as well as Senior officials of the Sudanese Socialist Union (SSU), Dr. Mohamed Hashim Awad (Economics) and Dr. Dr. Gafaar Mohamed Ali Bakheit (Political Policy). The focal point person of the mission who served as the liaison between the mission, the government and the ILO and who worked on the drafts of the report was Mr. Mohammed El Murtada Mustafa (head of the department of Manpower and Employment). Mr. Murtada was assisted in the mission by his deputy, Mr. Saad Saeed El Agabani. The Director General of the ILO in 1976 was Francis Blanchard. Approximately 100 local experts assisted in writing technical papers for this mission. On major strategic issues, the head of the mission, Mr. Faaland, also consulted with President Nimeiri; these consultations took place several times during the mission to get his input and his guidance on some strategic issues.

²² ILO Report 2014, Web Access: <http://www.ilo.org/wcmsp5/groups/public/@africa/@ro-addis_ababa/@sro-cairo/documents/publication/wcms_334878.pdf>

Contrary to the recommendations from expert studies to emphasize primary and secondary education, which increased during the late 1980s to the late 1990s, there was a marked increase in universities from under ten to more than forty in the following years. Though this was largely due to an increase in popular participation and private financing rather than in public spending, which declined relative to population growth, it still did not solve the education anomalies.²³ The advent of public education from the British system was not entirely satisfactory to the ambitions of the northern Sudan middle class, and so a parallel effort of establishing private schools began during this time. These establishments included some technical schools and some girls' schools, and later a university for women.²⁴ In lieu of the government or private education offered in the Sudan, some families sent their offspring or went themselves abroad, looking for advanced and higher education. The strategy for the politicians should be to make it attractive for them to stay in the Sudan and to improve the Sudanese institutions to their former glory and beyond.

A comprehensive education strategy should include all types and levels of programs from local craft skills, vocational training, including agriculture skills, and industrial skills—all the way to technical and advanced degrees. All elements are necessary for a fully functioning society. From the ongoing issues of an education system gone awry, the following are recommendations for a proactive strategy in the short and long term to modify the education system to meet the demand for marketable skills. Clearly education is connected to employment, which in turn rests on healthy industry and agriculture and on entrepreneurship abilities—that combination of factors should create jobs.

Recommendations for Education

Institutional and structural change

- Create vocational education tracts for post-secondary education that will supply the pressing need for skilled craftsmen as well as higher technical education—in areas of pipefitting, electrical works, tile fitting, building, practical nursing, medical technicians, agricultural skills, service industry workers, and the like.
- Link primary education with health care in grades 1-3, creating health awareness and care for the very young school children, linked with rural nursery care—increasing the number of linked rural institutions by a factor of 10 yearly.
- Create an independent council for higher education to supplement the Ministry of Higher Education—ensuring academic freedom.²⁵
- Instill basic educational standards and vetting processes for the ministers to encourage those with political and administrative skills, as well as strengthening the education in their respective fields of ministry.
- Consider returning to the 12-year system of education to align with international standards.
- Standardize education material for public and private schools, and vet the material used for education to come up to international standards, but also to be relevant to the culture and area of the school.
- Education should encompass basic good health and hygiene practices. Health care workers should be trained for the periphery as well as nurses (male and

²³ ILO Report, 2003

²⁴ Ahfad University for Women in Omdurman, Sudan

²⁵ El-Tom, 2014

female). Government incentives should woo the educated medical doctors to set up practice outside the capital.

- Expand the stable of teachers and administrators to include the Sudan's high demand categories, in particular: mathematics teachers in primary schools, headmasters, foreign language teachers in primary school, and mathematics teachers in secondary schools, among several others found to be in short supply.²⁶

Research and training

- Determine the labor market demand and the likely future demand for industrial, agricultural and management advancement through a study from the Ministry of Labor.
- Have a plan for channeling students toward careers that supply the market demands and provide the students with skills needed for the workforce and for adult life.
- Include career guidance and counselling so that students are channeled into directions suitable to their abilities so that they can obtain job skills for their future careers.
- Encourage training abroad for professors, students, and technical/vocational experts to improve the international competitiveness—including joint programs with international universities.
- Campaign in the countryside to encourage/explain why the children need to go to school, that this is for the future of the children and the nation.
- Channel students into sectors in high demand, such as engineering, especially electrical, mechanical, civil, planning and aviation engineers.²⁷

Infrastructure and technical arenas

- Maintain the school buildings and supplement the educational materials for the less fortunate.
- Spend on school facilities needed for higher education needs; providing supplies, tools, and access to international literature and instruction manuals for academic and technical areas.
- Expand vocational supplies and equipment for skilled training and semi-skilled training in areas of market demand, such as welding, tailors, drivers, mixer operators, secretarial personnel, and bookkeepers.²⁸
- Develop a generalized roadmap for a technical training system in the country.

Finance

- Increase spending on education. There is no doubt that the countries that are spending more on education have a better economy.
- With increasing stability in the nation and the regions, funding from the military could be diverted to education by one or two percentages a year, creating little impact on the military, but a great impact on education and future national stability.

²⁶ Ibrahim, Mahmoud, Powell, Abderahim, 2014

²⁷ Ibrahim, Mahmoud, Powell, Abderahim, 2014

²⁸ Ibrahim, Mahmoud, Powell, Abderahim, 2014

- The Ministry of Education should include a hardship pay for teachers in the rural areas that includes also access to the upgraded health-educational linked facilities.
- Create partnerships for rural education with economically advanced countries to help finance immediate improvements in primary education, health care and child care.
- An immediate increase in pay for primary, secondary, and tertiary education instructors and professors is a crucial step to returning the quality of education to its former standards and even to improve it beyond its prior glory. Clearly, to have quality teachers, the teachers must have competitive salaries.

Though the Sudan has increased its number of secondary and tertiary educational facilities exponentially, the quality of the programs has radically suffered.²⁹ Schools and medical facilities remain scarce in the periphery. Historically, the quality of education in the Sudan used to be among the highest in Africa. Clearly a quality education, be it academic, technical or vocational, is a sound basis for a good economy, followed by the development of productive industries, and agriculture. This, however, requires a great number of political, administrative and financial reforms, but also a peaceful environment.

The results of the 2003 ILO study showed the government to be the major employer of the graduates of higher education, while a serious discrepancy existed between the number of graduates and the ability of the formal sector and the private sector labor markets to absorb them.³⁰ Though the Sudanese community is very much involved in the education of its children, the communities, the civil society, and the private sector need to press the government for support of quality education, while also setting examples of unique strengths in education in each sector and providing incentives for the educated to work in areas outside the center. The community and government organizations need to engender pride and dignity in all echelons of labor through shared efforts and responsible programs. The Sudan had in the past, with the help of the Germans, sent a select group of individuals for technical/vocational training to Germany. The measurable result of this type of education produced some of the most skilled craftsmen in the country who went on to begin successful businesses. Those who were trained outside the Sudan could in turn teach at centers created in the Sudan. Darfur and areas in the periphery should have permanent vocational training centers, especially for the internally displaced persons and those who have lost their traditional farming or pastoralist livings—creating new vocations and livings with higher incomes.

Education and health determine the level of productivity and wealth that a country can achieve. By accelerating a focus on education, the Sudan can close the achievement gap, improve national and international competitiveness, drive economic growth, and foster entrepreneurship.

III. Combatting Unemployment, Promoting Growth through *Entrepreneurship*

The development of small-scale, private, income-generating endeavors is a dynamic ‘engine’ for economic and social development. Based on free enterprise concepts, micro-enterprise programs powerfully promote the grassroots economy. Knowing the conditions that inhibit

²⁹ Bishai, 2008. Web Access: <<https://www.usip.org/sites/default/files/sr203.pdf>>

³⁰ ILO 2003 Sudan Study

and support economic growth is key to the success of securing and stabilizing an ongoing market share for local entrepreneurs. Micro-enterprises are bottom-up efforts that both require and meet with top-down efforts through government and civil society. The Sudan needs attention and support for its large rural population and to draw incentives for the periphery to develop instead of seeing people moving to the center. Development in the periphery meshes closely with education advancement, infrastructure build-up, and agriculture mobilization. Microfinance allows for local skills to expand and to bring greater profit to families and communities. Given the right incentives, prosperity can spread—raising the standard of living for the poor and empowering the next generation, including the female breadwinners of the population.³¹

Past comprehensive studies on support to the rural economy and aid to small local businesses repeat the same strategies for improvement (infrastructure improvement and access to improved technology, among others); while political will and enactment of these strategies are not forthcoming. Conditions being conducive for moving forward with entrepreneurial endeavors are multiple and require careful strategic planning, particularly to help create jobs and reduce unemployment. Entrepreneurship and microfinance can positively impact both the over-qualified and the under-qualified, by creating jobs outside of government employment and by formalizing the informal sector. The educated elite could have the ability to inspire and create enterprises that employ both the skilled and the unskilled. In a healthy society, the government should not be supplying most of the jobs but should favor an environment where skills and training bring about the creation of jobs. The encouragement of rule of law and contract enforcement will then support the sustainability of such jobs. The job of the government is to create and to protect an accommodating setting for growth and prosperity.

The United Nations and Partners Work Plan for Sudan (UNaPs, 2013) and the IMF's Joint Staff Advisory Note on the Interim Poverty Reduction Strategy Paper (IMF 2013) focused their concern for effective humanitarian response on the vastly increased number of IDPs (internally displaced persons) and on the refugees in the Sudan from years of conflict. The wars caused irreversible ecological damage and a mentality of entitlement from IDPs and refugees that are difficult to change. The new landscape means that future jobs provided would require higher earning incentives than living in the camps and equal to average, if not better, education and health services.³² How to create fair income-producing occupations for those displaced from farming and pastoral livings is the almost insurmountable task of the government in a post conflict situation. Creating training programs—or better yet, institutions—for marketable skills and occupations should be a major focus of state and local governmental programs, accompanied by entrepreneurship, management, and business skills training.

Recommendations for Entrepreneurship

Institutional revisions

- Draft supportive tax laws and exchange systems to ensure profitability of local enterprises.
- Provide contract enforcement and rule of law.

³¹ Darbo, Suwareh & Yousif Eltahir, 2017

³² IMF 2013/IMF Joint Staff Advisory Note and the UNaPs/United Nations and Partners Work Plan for Sudan, 2013

- Promote the production of durable goods, and of services for daily local consumer needs in the periphery.
- Use local skills and local resources for small enterprise production.
- Form incubator programs for services and technology to promote rural development.
- Create local crafts guilds or trade unions, designed to direct and protect the newly emerging small enterprises and to represent the small businessmen and businesswomen at local, state, and federal governments.

Training and research

- Train through institutions in the center and the periphery in entrepreneurship, marketing, management and distribution – promoting local leadership and social entrepreneurship to support local communities.
- Improve vocational education systems to create businesses in alignment with learned skills, such as mechanics, pipe-fitting, tile-fitting, and electricians.
- Motivate the graduating students to move from the capital and its surroundings to engage in training and developing the poor and the unskilled in the periphery.
- Assess local and central level support structures and conditions that sustain start-ups and small businesses.
- Study and promote processing of local raw materials and use of labor-intensive technologies to employ people in the periphery.
- Study risk and risk management so that agricultural and informal sector industrial production can be promoted.
- Instill business leadership training programs by incorporating international standards and curricula.

Infrastructure

- Provide transportation and infrastructure to facilitate marketing. This is a government duty for central and peripheral regions.
- Improve the functioning of local and regional markets for goods and services, through cooperation with private actors in providing new market buildings and related utilities, with more government support and more effective incentives.

Finance

- Channel microfinance grants to the periphery, through proven reliable government and non-governmental organizations.
- Guarantee that the monetary gain from small enterprises is greater and more rewarding than charity/handouts given over many years for the internally displaced population (IDPs) in the refugee camps.
- Distribute local investments outside the center and provide additional investment capital.
- Provide fiscal incentives for the skilled and the unskilled so that they aim at self-employment or wage employment and do not ‘flee to the Gulf’ for jobs.

While iterations of international studies on development in the periphery, from 1976 to the present, emphasized training, infrastructure (particularly river transport), and the need for technological advances, recent reports (IMF Report 2013) highlighted the onerous burden of repatriating the internally displaced people from years of war. The flight of the war-affected people to the camps for the internally displaced, where the international community’s charities provided education, food, and health care, has killed incentives for enterprises and

local production as basic goods were coming from outside.³³ Federal, state, and local governments as well as communities will need to pool their efforts to facilitate and to encourage local small enterprises and industries, repair services, and necessary services for the outlying provinces—as this is where much of the displaced population has settled. Not only must the government provide infrastructure for transportation to markets, but also a tax and exchange rate system that enables substantial profits to pull the population away from the entitlement and handout culture and atmosphere created by conflict.³⁴ Other countries in Africa have done more to involve local businesses. Tunisia has set up specialized banks for financing small and middle-scale firms, micro-projects and self-employment. These Tunisian non-profit and non-bank financial institutions aim to broaden the production base, to encourage individual initiatives, to develop and to beef up production and productive employment.³⁵ Mirroring successful models from outside, such as these from Tunisia and Egypt (Adly 2014), could likely help to change policies in the Sudan.

Unemployed youths are a “national time bomb”—as young people enter the labor market for the first time. They represent the greatest category of employment seekers, and are categorized with postgraduate, university, secondary or basic certificates, respectively. Being a dynamic resource, most of these youths have dreamed of leaving the country for better work, or they settle for joining unofficial and unproductive segments of labor markets which need no professional or vocational skills. However, the government and private sectors should be concerned with the negative socio-economic impacts of the youth status, since youth unemployment denotes human capacity waste and loss of productive powers.

The University of Khartoum is planning a Centre for Entrepreneurship (2018) that will not only teach the skills and the routes to innovation success for business establishment but will also provide a social conscience for bringing businesses and aid to the periphery.³⁶ The internal education system developed by the British administration ultimately created a class of elites—including the craftsmen from technical schools and the civil service—by forming the basis of the political parties and the trade unions. The system eroded over time with the abolition of independent trade unions that guarded the skills, the working conditions and the wages of the population. Bringing in a new system, in accordance with the current times, will develop and protect relevant skills, and will create a labor pool and market for internally displaced people. New skills and business incentives will potentially aid in their return to their local villages to rebuild and to develop or will help to create new centers of commerce in the areas surrounding the old camps for IDPs and the refugee camps. Government support for these solutions is essential to ensure the success of state and local efforts. Rural small business development with the requisite infrastructure is also integrally linked to agriculture as the currently biggest economic sector in the Sudan.

³³ IMF 2013/IMF's Joint Staff Advisory note on the Interim Poverty Reduction Strategy Paper, 2013

³⁴ IMF 2013/IMF Joint Staff Advisory Note; and UNaPs 2013/United Nations and Partners, Work Plan for Sudan, 2013

³⁵ Adly, 2014

³⁶ See on these recent developments: <http://homesforsudan.blogspot.com/2018/04/new-projects-and-workshops-2018.html>

IV. Improving Growth and Employment through Agriculture

'The geographer may still in the arrogance of science describe the Nile as 'a great, steady flossing river, fed by the rains of the tropics, controlled by the existence of a vast head reservoir and several areas of repose, and annually flooded by the accession of a great body of water with which its eastern tributaries are flushed'; but all who have drunk deeply of its soft yet fateful waters-fateful, since they give both life and death-will understand why the old Egyptians worshipped the river, nor will they even in modern days easily dissociate from their minds a feeling of mystic reverence.' p. 9 (Winston S. Churchill, *The River War*, 1933)

As agriculture was and remains the largest economic sector in the Sudan and is supplying important export commodities, it is important to view the vast arable land and its use and misuse in historical context. It is also necessary to review what past studies have recommended, the subsequent results, and to craft new recommendations for a prosperous future. The Sudan was slated to be the 'bread-basket' of the Arab world.³⁷ Bernal (1997) reports that - according to Daly (1986) - Sudan *was* an exporter of grain. It has yet to become the bread-basket of the Arab world. Transformation of subsistence farmers into more efficient farmers and developing mechanized farming for producing a surplus for export should have been possible in the Sudan by 2018, yet it barely produces enough for domestic consumption. In fact, mechanized agriculture and irrigated farming schemes have degraded the land, decreasing grain production and requiring import of goods for subsistence. But the potential for expansion is great.³⁸ Since the 1980s the competitiveness of the country's agriculture, which is the backbone of the economy and the income base of the majority of the population, has declined at the same time as the income and regional inequalities have widened.³⁹ There is an urgent need for diversification of skills, industry, and land use.⁴⁰ However, as Suliman has reported in 2005 - 'too many people are doing the same thing, using the same resources.'⁴¹ International organizations' recommendations were to assist subsistence farmers with connector roads and trunk roads to facilitate the marketing of products. Also, experts thought that splitting the agricultural ministry could be a solution—so that one department could deal exclusively with the small farmers, while the other department of the ministry could govern the mechanized farming sector to encourage the development in the neglected areas of the south, the east and the west of the country. All such efforts could have improved the living standards and the employment of most of the people, but up to now the implementation has been glacial.⁴² New strategies are required for the Sudan to attain food security, the improvement of family income, and the reduction of poverty.

A further element of the Sudan's geography, strategic positioning, and agriculture development is water. The Nile river—Egypt's most significant water source—runs from Ethiopia and Uganda through thousands of kilometers of South Sudan's forests and swamps and Sudan's arid plains and deserts. As Churchill (1933) said '*aut-Nilus, aut nihil*' - without it, there is only suffocation.⁴³ After the split with the south, the Sudan retains (as a share of its total surface) 6.76% of arable land (a little less than half of the 14.3% arable land when the

³⁷ Kaikati, 1980; Wohlmuth, Karl/Peter Oesterdiekhoff, 1983; Wohlmuth, Karl/Peter Oesterdiekhoff, Eds., 1983

³⁸ UNEP, 2013, Tufts Feinstein International Center Report; Darbo and Eltahir, 2017 predict a 60% increase of wheat production and a 6.4% increase in sugar production.

³⁹ 1986, 1976 ILO Reports

⁴⁰ Suliman, 2005

⁴¹ Suliman, 2005

⁴² Many more recommendations on agriculture were in the 1976 ILO Report.

⁴³ Churchill, 1933

north and the south were unified).⁴⁴ Concern for desertification in the Sudan arose as early as in the 1960s, yet desertification has continued. Overuse of the land, desertification, and conflicts resulting from the changing eco-environment, have exacerbated the challenges of a developing nation.⁴⁵ Loss of land by the displaced people from conflict, in turn, triggered conflict—creating a continuous cycle of fighting.⁴⁶ In addition to the loss of land from conflict and desertification, successive governments have seized large tracks of traditionally used pastoral land for large-scale farm development of foreign investors.⁴⁷

Previous strategies were to wrap agricultural raw products through processing into industrial products, though it diminished over time. This strategy was resumed with some of the larger firms, but many workers were left out of the benefits from processing the raw resources. Agriculture is still the most important sector in Sudan and provides most of the employment. The World Bank (in its Data Set on World Development Indicators 2016) indicated that 44% of those employed in 2011 worked in agriculture, while other sources put the figure as high as 60%. Traditional sectors of agriculture encompass low-income sectors and women. Industry has the highest potential to provide productive employment; thus the links back and forth between the two sectors of agriculture and industry need strengthening.⁴⁸ Darbo and Eltahir, 2017 (in the African Development Bank, Organization for Economic Cooperation and Development, United Nations Development Program African Economic Outlook Country Report Sudan) predicted that the agriculture and industry sectors would produce most of the economic growth in 2017, with at least 6.6% coming from agriculture with expected increases in production of sorghum, oil seeds and livestock. The overall aim of an agriculture strategy is to change it from subsistence production to modern and competitive production through sustained rural development, resource conservation, and better land use.

Recommendations for Agriculture

Institutional revisions

- Land registration reform and returning land to the displaced owners – or provide alternative incomes and livings.
- Regulate the use of irrigated land to rotate crops and prevent degradation, increase rehabilitation and use of existing non-developed cropland.⁴⁹
- Contracts on land should be advertised, and the contracts should be given competitively, with the decision taken collectively by a specialized committee, to the best bidder. For big contracts, the final decision should be at the cabinet level.
- Create partnerships between the State and farmers, between the State and friendly countries, and between investors and producers.
- Improve ministry of agriculture’s structural planning and conservation efforts.

Training and research

⁴⁴ CIA World Factbook Sudan 2013; Hamad and El-Battahani, 2005

⁴⁵ Adam, Pretzsch, Darr, 2015 (among others)

⁴⁶ Suliman, 1997; The share of GDP in agriculture increased from 33.3 in 1990 to 43.8 in 1999, then declined to 31.1% in 2009. The share of services in GDP declined from 54.4% in 1990 to 34.4% in 1999 (World Bank Data 2016).

⁴⁷ Fahey and Leonard, 2008

⁴⁸ CIA Factbook Sudan 2014. The industries of the twenty first century Sudan are: oil, cotton ginning, textiles, cement, edible oils, sugar, soap distilling, shoes, petroleum refining, pharmaceuticals, armaments, and automobile/light truck assembly.

⁴⁹ Darbo & Eltahir, 2017, p. 10; Biro, Pradhan, Buchroithner & Makeschin, 2011

- Direct agricultural production to meet food self-sufficiency needs, by gradual selective delinking from international trade as it is currently practiced.⁵⁰
- Looking after public services in the country-side and expanding projects of rural development in order to provide for a larger manpower in the country-side and to stop migration to towns.⁵¹
- Link small conservation efforts to rural schools.
- Promote international and local linked conservation efforts, such as tree re-planting, reservoir building, and soil erosion mitigation.

Infrastructure and environmental conservation

- Assist the pastoralists and the farmers to rehabilitate their natural habitat with upgrading land usages and alternate farming and pasture techniques.⁵²
- Develop the infrastructure in roads, railway, or river transport to connect the produced products to its consumers.
- Provide storage facilities for raw agricultural products to ensure food security.
- Create government and non-governmental programs to help farmers to upgrade productivity, upgrade to modern irrigation techniques, upgrade the quality of produce, and upgrade the efficiency of product transfer.⁵³
- Roll back mechanized farming and nullify concessions of large tracts of land to absentee landlords.⁵⁴

Finance

- Design a system that guarantees that a process of selection/decision concerning money for land transactions can be guaranteed to be safe, fair and secure—by eliminating all forms of corruption.
- Solve the problems of marketing and attract investments to the agricultural sector by giving incentives and by upgrading the farmer training.
- Promote the contribution of agriculture to foreign trade.
- Intensify investment in the agricultural sector and improve the terms of financing so that this sector can assimilate increasing numbers of manpower.⁵⁵

The war has displaced people and the lack of land care has exacerbated the misuse of agricultural resources; this has increased poverty and unemployment in the peripheral areas. The internally displaced people (IDPs) who are concentrated in one area – the camps – have completely denuded the land of trees for hundreds of kilometers in the circumference of the camps, thereby affecting the climate and the farming. Prior to the displacement of the IDPs they were farmers, herders and nomads, spread across vast areas of land, allowing for regeneration of some of the trees, but now the conditions are close to becoming irreversible.⁵⁶ The ratio of cattle to people has increased as well, overwhelming the ability of the land to support the herds.⁵⁷ As stated in the review of prior strategies, the large-scale farming has also

⁵⁰ Suliman, 2005, p. 27; Siddig and Babiker, 2017

⁵¹ Hassan Bashir Mohamed Nur, n. d.

⁵² Suliman, 2005, p. 27; Siddig and Babiker, 2017

⁵³ Satti, Zaitchik, and Siddiqui, 2015 (among others)

⁵⁴ Suliman, 2005, p.27

⁵⁵ Nur, Hassan Bashir Mohamed, Journal of the Sudanese Banking Union, 6

⁵⁶ Interview with a Sudanese NGO director in Darfur, 2014

⁵⁷ Hamad and El-Battahani, 2005

disrupted the land for production by improper crop rotation and increase of the area of the farms rather than increasing the production. Thus, ignoring the geography and the environment affects the productivity of the land, the strategic security importance, and Sudan's ability to trade with the rest of the world.

Agriculture contributed 42% of GDP in 2013 and 39% of total GDP in 2015; as of 2013, 45% of the available arable land in the Sudan was being cultivated.⁵⁸ Because so many people from the rural areas have fled to the large urban centers, unemployment in the country-side is much less than in the cities. Improvement in land cultivation efficiency would boost production as well as providing employment and the production of more goods to be used in manufacturing and in industry, rather than being used for subsistence. It would also reduce the necessity for food imports for wheat and other primary commodities closely tied to industry.⁵⁹ Unfortunately, crop productivity has declined in the Sudan due to poor management of agricultural land and services, and due to lack of technology and infrastructure. Transport urgently needs improvement, but also there is a need for improvement in land use.⁶⁰

As well as looking at small and large farming enterprises, most significant is the Sudan's past and present history of pastoralism and livestock. Fahey and Leonard (2008) report that an estimated share of 80 – 90 percent of all the Sudanese households own livestock, with perhaps one third to one half of all households being reliant on livestock for their livelihood.⁶¹ They also find that decades of development policies in the Sudan have promoted horizontal expansion of crop production, with the government seizing vast quantities of rangeland and pastureland to promote mechanized agriculture production. This comes at a steep price to the poor livestock owners and the pastoralists. These shortsighted policies have contributed to violent conflict, population displacement, and extensive food insecurity. Multiple peace agreements should have provided opportunities to reexamine the old policies and to create new practices and policies to elevate the position of the poor herders to the standard of a decent wage and living standard which is outlined in the universal labor rights.⁶²

Prior to the oil boom, exports of livestock were a major income driver for the Sudanese economy, as the country was one of the major suppliers to the Gulf countries. During the height of the oil boom, exports of livestock were reduced to just 3.2 percent of the exports according to statistics from the Central Bank of the Sudan.⁶³ The Sudan is blessed with access to ports and the Red Sea, a vital link for the economy that the southern part of the country deprived itself of when splitting into South Sudan. Landlocked countries such as South Sudan, Ethiopia, and Uganda depend on transit through to the major ports in the Sudan, Djibouti, Somalia, and Kenya for commerce, imports, and exports. Therefore, the Sudan should care for the treasure of sea access with improved infrastructure and improved port capacity. Ethiopia and the Sudan have recently signed a memorandum of understanding for joint capacity building and use of Port Sudan.⁶⁴ This opens sea access to landlocked Ethiopia in other venues besides through Djibouti or rarely through Somalia, promoting competitive pricing for export and heralding new cooperation between neighbors. Laws promoting fair and open export fees are needed, and a system is requested to disseminate current pricing practices for livestock which prevents corruption and undue exploitation of the poor by

⁵⁸ World Bank, World Development Indicators, 2016

⁵⁹ El-Bushra, Salih, and El-sheikh, 2012

⁶⁰ El-Bushra, Salih, and El-sheikh, 2012

⁶¹ Fahey and Leonard, 2008, p. 1

⁶² Fahey and Leonard, 2008, p. 1

⁶³ Fahey and Leonard, 2008, p. 5

⁶⁴ Tekle, 2016

livestock brokers.⁶⁵

Sudan scholars devote myriads of studies and publications on livestock and pastoralist incursions on farmland and the effects resulting in conflicts. Continuation of the ancient life of the nomads ultimately will be limited by land that can sustain the animals. The growth of herds, not just in the Sudan, but in many parts of East Africa, is outgrowing the human and land capacity to sustain them. Partially this growth comes from improved veterinary care and from disease control, although such interventions are quite limited in some areas. A more durable solution for pastoralists and nomads is of paramount importance for conflict mitigation as well as for economic stability. Fahey and Leonard (2008) reference Ahmed (2002) who was analyzing the cultural perception that the nomadic life is a backward one and that nomadism ultimately is destructive to natural resources. Countries with a large nomad population struggle with the challenge of educating the children of families who move constantly—perpetuating the cycle of illiteracy among the cattle herders and nomads.⁶⁶ The government in the past decade has enacted certain laws to protect the small herders; the IGAD report (from Fahey and Leonard 2008) and the study by Willow 2006 (on the revival of the Jonglei Canal Project in 2006) discuss the implications for pastoralism of the four-year ‘Green Alert Program’ which is driven purportedly to promote increased crop production and settlement of pastoralists with private and international funding.⁶⁷ This program was also meant to safeguard the poor pastoralists from exploitation by the brokers and the wealthy exporters. A healthy agriculture sector affects all areas of the Sudan’s economy, leading to a more robust use of primary commodities in industry.

V. Growth and Employment through *Industry*

“In the 20th century, we had a century where at the beginning of the century, most of the world was agricultural and industry was very primitive. At the end of that century, we had men in orbit, we had been to the moon, we had people with cell phones and colour televisions and the Internet and amazing medical technology of all kinds.” — David Gerrold⁶⁸

Industrial development in any country is intrinsically tied to entrepreneurship, management, agriculture, education, and employment; however, over the last few decades the Sudan’s industrial sector has almost entirely expired. Past academic and international organization studies repeat recommendations that the Sudan should process and develop its primary resources through industry rather than exporting them in their raw form.⁶⁹ Further recommendations to develop infrastructure, modernize production, and modify tax laws were equally reiterated. Like the previously recommendations for the development of education, entrepreneurship and agriculture, they have either not been implemented or only partially implemented. Furthermore, industry and manufacturing sectors have disintegrated proportionally with the increase in the oil exploitation and oil production in the Sudan. The loss of most of the oil production to the South Sudan has however revived government and private sector interest in rejuvenating the industrial sector of the economy.

⁶⁵ Fahey and Leonard, 2008

⁶⁶ Fahey and Leonard, 2008; Ahmed, 2002; Cited in Fahey and Leonard: Khogali, 1979; Willow, 2006

⁶⁷ Fahey and Leonard, 2008

⁶⁸ David Gerrold is a contemporary American screenwriter and novelist. See on his works:

<https://www.gerrold.com/>

⁶⁹ ILO Reports 1976, 1986, 2003

Lack of skilled labor, low productivity, over-taxation, scarcity of electricity, gaps in infrastructure, water, irregular supplies of raw materials, mechanical breakdown of machinery, and the high cost of production have radically eroded industry—in addition to the lack of interest in industry after oil became an important source of revenues.⁷⁰ Shortages of foreign exchange for the importation of raw materials and spare parts for machinery also have degraded factories and manufacturing production. A recent report on trade and industry in the Sudan states that out of 76 textile factories, only four were operational in 1994.⁷¹ More than three quarters of the flourmills have ceased production, and only about 25% of the edible oil factories are producing cooking oil; additionally, multiple cement factories are deteriorating in their conditions.⁷² In Khartoum State alone, 65% of small industrial enterprises are no longer operating, particularly in the textile and spinning sectors. Factories for leather products, domestic utensils, and clothing manufacturing lay idle.⁷³ Engineering industries and foundries producing equipment and spare parts likewise diminished in terms of production.⁷⁴ While the oil industry in its boom years increased growth exponentially, the revenues were not used to build the other essential ingredients for a diversified economy, such as the industrial and the agricultural sectors, both bedrocks of stable economies.⁷⁵

El Bushra's 1972 study recommended that 'on the whole, without an organized and effective training system the chances of a large-scale industrial development will be seriously limited. History has shown this to be true. Fortunately, the authorities as well as the manufacturers seem to have become aware of this fact, as some efforts have recently been made to improve skills by introducing vocational training.'⁷⁶

The bulk of the investments in industry in the early industrial development eras was in the Khartoum area, and this remains the current situation. This pattern of continuation has caused the population exit of much of the periphery to the cities, particularly from the western regions and prior to the split of the country, from the South. On top of the change in demographics, corruption has increased over the years—though recently it has seen some improvements.⁷⁷

Historically, traditional types of cottage industries existed in the Sudan for centuries; modern industrial manufacturing was only introduced into the Sudan after World War Two (WWII).⁷⁸ In 1956, the government introduced the Enterprises Concession Act to bring subsidies, protection, and tax reductions to newly created industries, and another Act followed in 1967 for investments.⁷⁹ Many other Investment Acts have followed since, but with only negligible effects on private industrial investment. These early investment acts were more successful and

⁷⁰ Sudan Ministry of Industry, The Third Plan 2017-2020 (document obtained from Ministry of Industry)

⁷¹ Dagdeviren and Mahran, 2004

⁷² Al Gineid, 2014

⁷³ Al Gineid, 2014

⁷⁴ Al Gineid, 2014

⁷⁵ The telegraph system started under the Turks, and by Wingate's time, there were already 5,000 miles of telegraph lines (Warburg, 1971. P. 67). During the Ottoman time, a class of craftsmen also emerged.

⁷⁶ *El-Bushra*, 1972, p. 49.

⁷⁷ The Corruption Perceptions Index/CPI (with a value of 0 for the worst situation and a value of 100 for the best situation) for the Sudan in 2016 had the value 14 out of 100 (with a rank of 170 among 176 countries); this is a slight improvement of 1.6 points out of 100 compared to the value in 2010. See:

https://www.transparency.org/news/feature/corruption_perceptions_index_2016. A further improvement to 16 occurred according to the Index for 2017 with a rank of 175 by 180 countries included; see:

https://www.transparency.org/news/feature/corruption_perceptions_index_2017

⁷⁸ El Bushra, 1972

⁷⁹ El Bushra, 1971, p. 2.

were supposed to allow for expatriates to transfer savings out of the country and to ensure that if the industries were nationalized that the investors could retain their investments. One hundred and eighty-five new industries were established between 1956 and 1966.⁸⁰ The Ministry of Industry and Mining was established in 1966.⁸¹ Though quite a few industries were owned by the government, such as some of the canning factories in the south, a tanning factory in Khartoum, and some sugar production plants, the Sudan hoped to become self-sufficient in several areas of production in the next couple of decades. But, the situation of industry in the oil era worsened dramatically.

Among the industries affected by poor policy and poor support are the leather and tanning industry—once a major source of income for the Sudan, the textile and clothing production factories, the vegetable oil industry, the food industry, and the mining industry. High fees for animals and tanning as well as smuggling and outdated, crumbling factories adversely impacted what could be a high economic production area. Not only are increased VAT rates on cotton and clothing an impediment to the textile industry, but the competitors from government-owned factories are not subject to the same fees and regulations as the private ventures. Again, the burden of fees in the production of vegetable oil, the lack of quality control, poor crops to supply raw materials, and poor technology make local production more expensive and less refined than the cheaper imports. Though sesame in the Sudan should be of the highest quality, the economies of scale for foreign suppliers of oils outbid by price possibly better-quality products from the Sudan. As far as basic foodstuffs such as wheat, rice, and tomatoes are concerned, there is simply not enough local production for foodstuffs and for processing food for domestic and international sales.⁸²

While other types of industries, such as mining, bring in a lot of revenues, there could be so much more result in terms of creating value added.⁸³ Mapping and geological surveys could identify mineral deposits and their potential economic value. But the instability of the mineral market increases the liability for investment as do the lack of infrastructure and the gaps with material for processing.⁸⁴ The following recommendations reveal which areas for action need improvement.

Recommendations for Industry

Institutional revisions

- Streamline permits and bureaucratic processes for business start-ups.
- Institute laws that protect and support the informal sector, which constitutes the bulk of trade, industrial activity and manpower in the Sudan.
- Revitalize unions and craft guilds, to provide a voice for the workers in the industrial sector.
- Refine and craft laws protecting contracts, rule of law, and control of corruption, i.e., State laws must encourage new investors, not discourage them.
- Support competitive national production according to international and regional agreements.⁸⁵

⁸⁰ El Bushra, 1971, p. 2.

⁸¹ El Bushra. 1971, p. 2.

⁸² Sudan Ministry of Industry, The Third Plan 2017-2020 (Document from Ministry of Industry)

⁸³ Darbo and Eltahir, 2017

⁸⁴ Sudan Ministry of Industry, The Third Plan 2017-2020

⁸⁵ Ministry of Industry, Five years of economic reform 2011-2016 (Document from Ministry of Industry)

- Reduction or exemption of levies by local and state authorities, reduction of importation taxes and Value Added Tax (VAT) for industry policy purposes.⁸⁶

Training and education

- Promote bilateral and multilateral agreements in investment, technology and training.
- Linking entrepreneurship training with specific manufacturing sectors and gearing technical training in the various manufacturing sectors.

Infrastructure

- Revitalize manufacturing in the periphery and in former industrial centers such as Gezira State, White Nile State, and North Kordofan to discourage migration to the capital.
- Introduce low cost fuel alternatives for production and transport.

Finance

- Money and credit should flow into the industrial sector through grants, credit allocation and microfinance and state support.
- Integrate public and private sector investments to improve all sectors of services as well as of industry.

Private large investors have recently improved technology and development related to dairy production in the Sudan, by increasing the availability of fresh milk and milk products. Exporting basic cattle feed, such as alfalfa, brings in dollars from the Gulf to underwrite this branch of the industrial sector (though agricultural production and processing for export takes away production for local refinement and development as well as local use, causing importation of basic agricultural goods, so that there must be a balance of incentives for local production and exports). One particularly large private enterprise, the DAL Group, has invested heavily in research and development of cattle and dairy production. The company imports high milk-producing cattle from the US, UK, and Canada, and conducts cross-breeding experiments with hardier local cows to find a mix that will be tolerant of the harsh Sudanese weather conditions, but leading to cattle being as productive as Western cows.⁸⁷ However, so much more research and development (R&D) are needed, and these types of large-scale initiatives are only relevant for the well-heeled and the wealthy—they do not necessarily positively affect the small industrial endeavors. However, the role of large, diversified and internationalized firms like the DAL Group is important, as such companies will be able to compete and to cooperate with other large-scale international firms. When such firms are strong in Science, Technology and Innovation (STI), they *could* support smaller industrial ventures (either by cooperating or by funding).

Like the Chinese military, the Sudanese military set up its own investment institutions under the Military Economic Board approved by General Jaafar Nimeiri in 1982, an endeavor to make them self-supporting.⁸⁸ Additionally, under al Bashir, the military formed the Military Industrial Corporation in 1993.⁸⁹ The military manufactures weapons and armored vehicles

⁸⁶ Al Gineid, 2014

⁸⁷ Interviews and visit with DAL Group scientists at their farming projects, 2016

⁸⁸ Alex De Waal provides rich details and insights into the historical factions of the Sudan and reasons for its divide, in: Alex. De Waal, 2007. 'Sudan: What kind of state? What kind of crisis?'; Verhoeven, 2015, p. 114

⁸⁹ El-Battahani, 2016

among other goods. While the factories may provide some employment, the assumption is that the profits are returned to the military/to the company. The result is that the military and the security cabal have an immense amount of power and wealth with little transparency in regard of finances. Nevertheless, the Sudan is far from self-sufficient in any kind of production in the 21st century.⁹⁰ It still relies heavily on imports, also of basic foodstuffs, since the Sudan ceased of being an exporter of grain.⁹¹ The question is, why have good policies not been implemented? And why did the Sudan cease to care for their other rich resources once the oil revenue started rolling in?

While the Ministry of Industry does have outlines and plans for increasing the comparative advantage of the production of raw materials for internal development and exports of processed material, and plans to rehabilitate the factories in the Sudan, enacting these plans will take political will. The ministry has plans for foreign exchange inputs, for a gradual removal of export subsidies for raw materials, for procuring loans and investments from friendly states, and for just taxes and customs fees.⁹² Given a supportive environment, combined with entrepreneur training, and conditions conducive to industrial production, sales and export, the industry in the Sudan has a great potential for revival and growth. The traditional arenas, such as mining, textiles, tanning and the food industry, for which there are abundant raw materials, need revitalization, repair, and expansion. The country requires equipment, parts, services, and investment to modernize and to rejuvenate idle factories as well as building new ones to serve and to expand the development of the Sudan's rich natural resources.

VI. Improving Civil Service, People, Goods, and Resources through Management

“If this country is ever demoralized, it will come from trying to live without work.”
<http://www.goodreads.com/author/show/229.Abraham_Lincoln>

The Sudan has a wealth of human capital and in the past, an even more impressive skilled civil service—educated and trained individuals in administration and management from a well-thought-out system initiated and promulgated by the British. However, political purges of the civil service over successive regimes, economic decline and stagnation, as well as brain drain have eroded the bank of skills available in the country. Instead of hiring educated and qualified persons in permanent administrative and bureaucratic positions, regimes have successively awarded leadership positions to political supporters, tribal cohorts, and religious affiliates—despite international labor conventions that support independence and security for people in management positions, conventions which were adopted and ratified by the Sudan. Governments regarded trade unions and other civic organizations, charged with conflict resolution, more as interest groups constituting threats to the regime rather than as conflict-resolvers, and so were greatly diminishing the role of important institutions in protecting jobs in government and in industry. Perhaps, the most important institution protecting employment, fair labor laws, and international labor conventions—the Ministry of Labor—has been diminished in role and importance over time, rather than being empowered to help create jobs and to enforce labor laws.

⁹⁰ El-Battahani, 2016; and Interviews in the Sudan 2014: In the 1960s, vegetable oil was adequately produced, and in the 2010s, flour manufacturing was in surplus.

⁹¹ Bernal, 1997

⁹² Sudan Ministry of Industry, The Third Plan 2017-2020

Public services need an institutionalized system for the development of administrators, and gearing training and education for specific practices and positions. An answer for a strategic approach to the question is to find out which group could be considered as the agent for change and development. Leadership is lacking. Though academics can produce grand theory, often it is the practitioners who are more qualified to propose measures of development and improvements in development, management, and administration—linking theory and practice (policy). So, a balance of academics and practitioners is needed in a modern industrial system.

Recommendations for Management

Institutional revisions

- Limit political appointees to ministry level positions; require deputies and undersecretaries to have the training and qualifications for each sector where they are supposed to work.
- Form independent institutions for labor inspection and establish a grading apparatus that should follow global hiring standards.⁹³
- Enforce/create laws forbidding nepotism, political and religious favoritism, and require the hiring of personnel based on merit.
- Independent judiciary is vital for all sectors, insuring fairness of laws, distribution of positions, jobs and income—curbing corruption at all levels.
- Democratic transformation and freedom of organization of trade unions, unions of professionals, technicians, and of general administrators.⁹⁴
- Re-establish public employment offices as per the 1997 Labor Act and ensure compliance of private employment agencies with global labor standards.⁹⁵
- Ratify International Labor Convention #158 (termination of employment) and incorporate it into the national labor law.
- Compliance of the Labor Act with the interim constitution and the private sector in civil service.

Education and training

- Gear the educational system for specific skills and jobs—including more technical training institutions in the mix, rather than general university education that often fails to produce graduates who are qualified for real jobs.
- Encourage training and education in occupations in high demand in the management realm: business managers, administrative managers, customer service managers, personnel managers, real estate managers, and mass media specialists, especially in the food and beverage industries. The large need for real estate managers, as an example, reflects the recent construction boom in Sudan.⁹⁶

Finance

- Ensure fair wages and fair terms of service through labor laws and ensure that the Ministry of Labor is enforcing international labor laws and minimum wage laws.

⁹³ Khogali, 2017

⁹⁴ Khogali, 2017

⁹⁵ Khogali, 2017

⁹⁶ Ibrahim, Mahmoud, Powell, and Abderahim, 2014

- Governmental funds should be provided for management, social entrepreneurship, and leadership training centers in major universities, supported through partnerships with outside institutions and universities.

Correcting the essential issues of qualified management and competent civil service can play a huge role in institutional reform, development, growth, advancement, production for the country, and in promoting good governance. Good governance is entailing the provision of political goods, services (education and health), security and safety, rule of law, infrastructure, leadership, stability, and functioning fiscal institutions—all these tasks are facilitated and implemented through management and civil service. The Sudan needs to establish a social contract between the rulers and those they rule so that their citizens can prosper.⁹⁷

VII. Results of Past Efforts and Lessons Learned

Past efforts at development have improved the situation in the periphery somewhat, though overall failed to correct the high discrepancies of living standards between urban and rural areas as well as between the regions and provinces in Sudan. This has been arguably the worst cause of conflict in the country, along with land grabbing and land degradation. The past has shown the constraints that must be overcome but has also given blueprints for advancement of the country. But conflict has eroded many capabilities, and many of the intelligentsia have left the Sudan.

A series of devastating civil wars have marred Sudan's recent history, from the year prior to its independence until today. The histories of the wars have been well documented, as have the governments and regimes.⁹⁸ These wars have had a profound negative effect on the development of the various peripheral regions and even the center. The wars spread chaos in the periphery, displaced people, and contributed to the degradation of the environment.⁹⁹

In addition to the wars from independence until now, Sudan's history of governments has entailed a series of short-lived elected governments (from the two sectarian parties), which were invariably followed by military *coups d'état* installing military regimes. The military regimes have been the most enduring, and the shifting alliances among the sectarian parties, the Islamists, and the military, set the power patterns in the center of the country's elite during the years of war and mismanagement—that stunted economic growth and drained the countries' resources (including the revenues from oil of the past two decades).

Not only did wars and changes of governments affect the forward movement of the Sudan, but also the policies of the individual governments and regimes affected their relationships with the international community. From Sadiq El Mahdi's second democratically elected government to the present regime the Overseas Development Assistance (ODA) funds dropped precipitously from almost two billion dollars in 1985 to less than fifty million a year in 1998 which were going to actual development programs.¹⁰⁰ The policies and behaviors as far back as the Nimeiri regime, of the Sadiq government, and the 1989 Ingaz regime caused a consensus among donors to begin reduction in their aid budgets. The European Union (EU)

⁹⁷ Besançon, 2003

⁹⁸ Comprehensive histories are available from many authors, including Frances Deng 2001, Alex De Waal 2007, and Douglas Johnson 2003/2016

⁹⁹ Suliman, 1992

¹⁰⁰ Harmer, 2003, pp. 12-14

and other countries gradually began to reduce development aid and to replace it with emergency aid, but to a much lesser degree. “In the late 1990s, donors began to design approaches to reintroduce development-oriented activities, without appearing to legitimize the government politically.”¹⁰¹

The promise of a resumption of significant levels of development assistance to Sudan in the early 2000s was designed explicitly as an incentive for peace.¹⁰² Dually, the donors have not lived up to their promises, and the signing of the Comprehensive Peace Agreement (CPA) in 2005 as well as the split of the North and South in 2011 have not brought peace. Tax revenues and nontax revenues had dropped even in the last few years.¹⁰³ The World Bank, when it resumed relations with the Sudan, immediately opted for sustainable development aid and limited capacity building regardless of results on the peace processes. Recent lifting of sanctions on the Sudan could make business development easier, though lifting the ‘State Sponsor of Terrorism’ designation is perhaps even more important for building trust again with banks and the international community.

The very fact that decades of development studies by various organizations (ILO, World Bank, IGAD) were frequently repetitive indicates the failure of the policy, or if not the policy, for sure the implementation of policy. The Sudan today suffers widespread poverty, unemployment, and increasingly skewed wealth and inequality. As previously indicated, the Sudan ranks very poorly on the Human Development Index (HDI) and on many of the World Bank/IMF development indicators. Although the Sudan had increased its growth of capital formation between 2000 and 2005 from 18-23%, the country remained in this regard well below those of the Middle East and North Africa, and the growth was short-lived as it has dropped in the last decade.¹⁰⁴ The Sudan lacks realism in regard to its progress, has lacked real privatization, and has lacked sequential implementation and progress following the expert recommendations. The discrepancies between urban and rural areas have only increased. There has been too little attention given to management, coordination, and capacity for implementation. The country has not learned from its own historical experiences. While the reports looked at the economy, they did not look very hard at the institutions. An institutional reform must go hand in hand with economic reform, and so it is a failure of institutional reform of the country itself. The strategies were the blueprints, but there was no companion focus or institutional mechanism, or enough skilled bureaucrats with the requisite authorities and funding to implement them.

VIII. Towards a New Strategy

More than regime change, the country needs an entire system and personnel change. As noted above, regime change has not brought improvements. The Sudan needs a political system with personnel embodied with the requisite skill, political will, and initiative to effect deep change. The new thought process and the new system must build a reliable social contract with the people and address their basic needs, while embracing democracy and freedom. There needs to be a fresh culture advocating the good of the nation and of all its people, not just a select few who conform to a certain religion or political view. Initially, the new recruits and leaders will have to have some international education and influence.

¹⁰¹ Harmer, 2003, p. 16

¹⁰² Harmer, 2003, p. 18

¹⁰³ Darbo and Eltahir 2017 report tax revenue projected to drop to 5.2% of GDP in 2017 and 2018 from 5.4% in 2015, and nontax revenue to drop from 3.8% in 2015 to 3.5%.

¹⁰⁴ Hansohm, 2007

To effect these changes, these new innovative leaders must craft a growth-oriented strategy. This needs to be guided by the proper institutional *management* and facilitated through the mechanisms of developing *industry, agriculture, education* and *entrepreneurship* addressed in the paper. The tools for good management and skills for this growth should be bolstered through targeted education and training in the sectors needing support with a view to internationally recognized high standards. While the country needs to overcome the issues of external debt and structural impediments, growth needs to be created and maintained on a sustained basis to facilitate a favorable climate for development and reform. Such a climate for development is requested for attracting external investments and for supporting industrial development, as well as for providing a better and more efficient use of the land—real development is needed, not charity.

One of the key questions of an approach to institutionalized reform is: who or which social group could be an agent for change? There are the leaders who came from the bottom up through democratic elections to the leadership of the trade unions. Equally, there are the independent leaders of civil society organizations, as well as the political elites who are competent and committed to change. They are those who have the skills for political maneuvering and the understanding of economies and social structures, who can advance the nation and build solid relationships with the international community. The issue is identification and empowerment of these groups or individuals and training them for leadership.

With the rollercoaster changes of government, the *ministries* changed missions, shapes, agendas, and responsibilities—creating a lack of continuity in institutions and destroying the means of directing the implementation of the strategies which were outlined by the various international and national studies. Furthermore, the degradation in quality of the civil service – the major tool for the actual implementation of the strategies – crippled advancement. Without this tool, along with inclusive government and equality, the strategies towards good governance and inclusive growth could not be served.

All the previous strategies for development and poverty alleviation lacked any prioritization of sequences in terms of time and resources being necessary. There was a dearth of understanding of the constraints to be overcome, an underestimation of the resources required, and of the time it would take to achieve certain goals. Since the 1980s, the competitiveness of the country's agriculture and the income basis for most of the Sudan's population have declined. While income has declined, regional inequalities have increased.

Priority issues among the areas needing new strategies for balanced development are: the link between agriculture and industry, human resources (education and health) development, administrative and management building, and employment creation through entrepreneurship rather than through government hiring. Before any industry can be developed, the infrastructure and the political capital must be in place. Power and water are *sine qua non*, even before skilled workers come into the picture. To support the workers, health care and education for the families are necessary. Clearly roads, transport and communications are required as well as banking and insurance in the modern age.¹⁰⁵ Implementing sustainable development policies to promote industry and agriculture is a direct link to maintaining lasting peace in a country of frequent and enduring conflicts.

¹⁰⁵ El-Bushra, 1971, p. 8

The Sudan needs an overall macro-economic change to stimulate greater growth. This would include a much greater investment as percentage of GDP. While investment has reached a high share of almost 30% of GDP in 2004, it dropped to less than 17% in 2015.¹⁰⁶ Furthermore, gross savings as percentage of GDP have decreased since the oil boom to as low as 5.5% in 2014 (World Bank, World Development Indicators 2016). This should be augmented to at least the 13.9% that Egypt boasted in 2014 (World Bank, World Development Indicators 2016), though their savings have diminished from higher values in earlier years, as have the Sudan's savings. The *Radio Dabanga* article reporting that the Sudan spends less than 1.5% of its GDP on education reveals that the Sudan is far off the mark.¹⁰⁷ This indicates that the basic budget of the country has flawed priorities, even though the budget allocation for social spending is supposed to increase from 4.4% to 6% in the short term.¹⁰⁸ Low pay and low incentives create low productivity. Increases in social spending and in pay are immediate concrete steps that the government of the Sudan can take in following this strategy. Reductions of customs and tariffs would boost industrial production, agriculture and trade.¹⁰⁹

A healthy, wealthy Sudan could greatly assist and stabilize South Sudan as well as the surrounding countries in the crucial region of the Horn of Africa. While Ethiopia and Kenya are pre-occupied with Somalia at present, Somalia itself is not ready for large-scale stability and commerce, leaving the Sudan with one of the most important transport and security potentials and responsibilities.

IX. Conclusions

The Sudanese people have for decades dreamed of a better future for the Sudan and their own lives. However, this dream can only be realized when high quality services, productive employment, excellent education, good health services, fresh drinking water, and suitable housing are accessible for all citizens. The road to such development begins at the top, but also at the bottom—including all echelons of society in the journey. As for those who are crafting policy such as the politicians and the educated elites, they should envision new horizons to radically and comprehensively treat the Sudan's diseases as well as the symptoms, particularly to address community problems of illiteracy, unemployment, lack of health care, or even access to fresh water. At the top, the Sudan needs training for creative and innovative leaders, educators, politicians, and thinkers who can craft and carry out the social contract between the leaders of the government and the people.

This strategy paper outlines a multi-pronged approach to affecting the economy and for treating poverty: mainly to unleash the untapped human intelligence, creativity, and the innovations for managing the country, creating jobs, revitalizing a moribund agricultural and industrial sector, and returning the civic leadership to competent and trained individuals. A collective partnership between the governors and the governed—that is including the people of the country in the decision-making process and the work on solutions—is the way to

¹⁰⁶ The Global Economy.com., Web Access: <http://www.theglobaleconomy.com/Sudan/Capital_investment/>

¹⁰⁷ "Sudan spends less than 1.5% of GDP on education". *Radio Dabanga Sudan*. July 31, 2017. Web Access: <<https://www.dabangasudan.org/en/all-news/article/sudan-spends-less-than-1-5-of-gdp-on-education>>

¹⁰⁸ Darbo and Eltahir, 2017, p. 5

¹⁰⁹ Darbo and Eltahir, 2017, p. 5, "...according to the five-year economic reform programme (2015-19) efforts continue to strengthen revenue mobilisation through enforcing compliance, reducing tax exemptions and reviewing the tax codes rather than raising taxes."

produce and sustain a successfully ruled and developed country. It is the government's job to set the standard and to put in place the incentives and the insurance for the leaders and the citizens: providing adequate pay for skills and labor, and financing the rehabilitation of the infrastructure, the health care system, the education system, industry and agriculture. Developing and rewarding the capacity of the stakeholders in society is the imperative rather than hoarding the privileges for the few what is meant for all.

The strategy to tackle improvements in education, employment, leadership, and the economy is to make definitive changes in each of the five tactical areas under the broader strategy of institutional reform. Management—being the crucial branch of those charged with running the various sectors of the government and the society—requires new training, international input as well as qualified people and the political will to choose different paths from the unsuccessful dead ends roads already travelled. The revitalization of the civil service sector is the prime institution in need of reform, as it is the base of a developmental state.

Concrete incentives with pay increases for the educators in all sectors, as well as improved training will facilitate distribution of skills and employment opportunities for all citizens. Pouring money into education, agriculture, industry, and infrastructure creates sustainable new jobs and growth in new sectors of the economy; however, more money is not enough. The Sudan has had a lot of money but has not worked intelligently with it.¹¹⁰ Repeating patterns of only creating new government jobs rather than building the economy has clearly been an unsustainable juggling game bound to eventually fail. The Sudan is rich in human capital, natural resources, and historical successes; these elements are agents for positive change. The Sudan needs to return to its roots of cultural social justice and care for its fellow citizens, under a developing social democracy charged with economic capitalism, supplemented with moral care and concern for the advancement of the poor and underprivileged rather than only the rich and privileged.

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¹¹⁰ Personal comment from Karl Wohlmuth, November 2017. See on this aspect his studies on agriculture, industrialization, growth and poverty reduction, and alternative economic strategies for Sudan (attached References and Bibliography).

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